

NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

Preliminary Findings Regarding a Federal Enforceable State Operating Permit

for **Challenge Door of Indiana**
in **Noble County**

FESOP No.: F113-10260-00047

Notice is hereby given that the above-mentioned company, located at 200 Gerber Street, Ligonier, Indiana, 46767, has made application to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) for a Federally Enforceable State Operating Permit (FESOP) for operation of an insulated steel door manufacturing facility. Based on 8760 hours per year of operation, the potential to emit of VOC is 151.49 tons per year. These VOC emissions are limited to less than 100 tons per year. Emissions of any hazardous air pollutant (HAP) are limited to less than 10 tons per year and emissions of any combination of HAPs are limited to less than 25 tons per year.

Notice is hereby given that there will be a period of thirty (30) days from the date of publication of this notice during which any interested person may comment on why this proposed permit should or should not be issued. Appropriate comments should be related to any air quality issues, interpretation of the state and federal rules, calculations made, technical issues, or the effect that the operation of this source would have on any aggrieved individuals. IDEM, OAM does not have jurisdiction in specifying and implementing requirements for zoning, odor or noise. For such issues, please contact your local officials.

A copy of the application and draft permit is available for examination at the Ligonier Public Library, 300 South Main Street, Ligonier, Indiana, 46767 and at the Northern Regional Office, 220 West Colfax Avenue, South Bend, Indiana 46601. A copy of the draft permit is also available for examination at www.state.in.us/idem/oam/index.html. All statements, along with supporting documentation, should be submitted in writing to the IDEM, OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana 46206-6015. If adverse comments concerning the **air pollution impact** of this draft source are received, together with a request for a public hearing, such a hearing may be held to give further consideration to this application.

Persons not wishing to comment at this time, but wishing to receive notice of future proceedings conducted related to this action, must submit a written request to the OAM, at the above address. All interested parties of record will receive a notice of the decision on this matter and will then have fifteen (15) days after receipt of the Notice of Decision to file a petition for administrative review. Procedures for filing such a petition will be enclosed with the Notice.

Questions should be directed to Nishat Hydari, c/o OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, call (800) 451-6027, press 0 and ask for extension (3-6878), or dial (973) 575-2555, extension 3216.

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

NH/EVP

**FEDERALLY ENFORCEABLE STATE
OPERATING PERMIT (FESOP)
OFFICE OF AIR QUALITY**

**Challenge Door of Indiana
200 Gerber Street
Ligonier, Indiana 46767**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: F113-10260-00047	
Issued by:Original signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: May 15, 2002 Expiration Date: May 15, 2007

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Emergency Occurrence Form

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a an insulated steel door manufacturing facility.

Authorized individual:	Bill O'Dell, General Manager
Source Address:	200 Gerber Street, Ligonier, Indiana 46767
Mailing Address:	P.O. Box 259, Ligonier, Indiana 46767
SIC Code:	3086, 3442
Source Location Status:	Noble
County Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit (FESOP) Minor Source, under PSD or Emission Offset Rules; Minor Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) surface coating emission unit, identified as P001, consisting of the following:
 - (1) One (1) surface coating spray booth, identified as Door Edge Paint Booth, utilizing a HVLP spray application system, coating a maximum of 175 door edges per hour, using dry filters for particulate matter control, and exhausting to one (1) stack, identified as E1;
 - (2) One (1) surface coating touch-up spray booth, identified as Door Touch-up Booth, utilizing an air atomized spray application system, coating a maximum of 175 door edges per hour, using dry filters for particulate matter control, and exhausting to one (1) stack, identified as E2;
- (b) One (1) emission unit, identified as P002, utilizing a solvent based cleaning solution to hand wipe a maximum of 175 door per hour and exhausting to general ventilation;
- (c) One (1) roll coating emission unit, identified as P003, consisting of the following:
 - (1) Two (2) roll coating operations, identified as Adhesive Roll Coater 1 and Adhesive Roll Coater 2, coating a maximum of 175 doors per hour on a daily average, and exhausting to two (2) stacks, identified as E3 and E4, utilizing solvent for roller cleaning;
- (d) One (1) core burning emission unit, identified as P004, consisting of the following:

- (1) Two (2) core burn units, identified as Core Burn Unit 1 and Core Burn Unit 2, for processing a maximum of 438 pounds of polystyrene sheet per hour on a daily average, and exhausting to two (2) stacks, identified as E5 and E6;
- (e) One (1) woodworking emission unit, identified as P005, utilizing a baghouse, identified as dust collector DC7 for particulate matter control, consisting of the following:
 - (1) One (1) table saw (M1);
 - (2) One (1) Miter saw (M2);
 - (3) One (1) rail machine (M4);
 - (4) One (1) Lockstile machine (M6);
 - (5) One (1) Hingestile machine (M7);
 - (6) One (1) tilting table saw (M9);
 - (7) One (1) planer (M13);
 - (8) One (1) beltsander (M14);
 - (9) One (1) lock block boring machine (M15), controlled by baghouse DC7 when boring wood materials and controlled by a cyclone, identified as CYC1, which vents to atmosphere, when boring polystyrene lock blocks;
 - (10) One (1) stile and rail machine (M16);
 - (11) One (1) Alterna door sizer (M17);
- (f) One (1) expandable polystyrene block molding operation, identified as P006, consisting of the following:
 - (1) One (1) batch polystyrene beads pre-expander system, including one (1) pre-expander machine and six (6) steel pipe frame supported polyester storage bags for aging pre-expander beads, capable of processing a maximum average of 1,200 pounds per hour of polystyrene beads and a maximum of 15,000 pounds per day of polystyrene beads, containing a maximum average of 7% pentane by weight;
 - (2) One (1) block molding press for molding pre-expanded polystyrene beads to final shapes, utilizing steam to heat the pre-expanded beads;
 - (3) One (1) shaped products drying room;
 - (4) One (1) pentane emissions collection system connected to a 4,000 standard cubic feet per minute (scfm) draft blower;

The collection system consists of:

 - (a) Ductwork conveying process emissions and ventilation air from two permanent total enclosures, one enclosure containing the bead aging bags and pre-expander, and one enclosure containing the block aging room;
 - (b) Ductwork conveying block molder bead filling pneumatic transfer air;
 - (5) One (1) boiler oxidation steam system (BOSS) (thermal oxidizer) with heat recovery devices, equipped with a burner rated at 6.7 million British thermal units per hour, using a mixture of pentane-laden process and ventilation air and natural gas as combustion fuel; and

- (6) One (1) regenerative thermal oxidizer, equipped with a burner rated at 7.2 million British thermal units per hour, using a mixture of pentane-laden process and ventilation air and natural gas as combustion fuel.

(The BOSS and the one (1) regenerative thermal oxidizer are in parallel with one another, each controlling part of the process air and ventilation air from the permanent total enclosures).

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour;
- (b) Closed loop heating and cooling systems;
- (c) Noncontact cooling tower systems with either of the following:
 - (a) Forced and induced draft cooling tower system not regulated under a NESHAP;
- (d) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;
- (e) Paved or unpaved roads and parking lots with public access;
- (f) Conveyors as follows:
 - (a) Enclosed systems for conveying plastic raw materials and plastic finished goods;
- (g) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations;
- (h) Other activities or categories not previously identified:
 - (1) Two (2) industrial shop vacuums; Potential PM emissions are estimated at 0.48 lb/hr or 2.1 tons per year;
 - (2) Maintenance/cleaning/repair chemical use (general venting); Maximum potential VOCs for products identified below is 0.14 tons per year. Products: Lucite acrylic lacquer, lacquer thinners and cleaning solvents (maintenance use), butylgrip sealant, X-433 aerosol, strippable wall coating, Mautz industrial enamel, rigid dark thread cutting oil, and WD-40 bulk liquid, etc;
 - (3) Coiled sheet metal cold stamping, punching, bending, and forming operations using non-volatile oil based lubricants; and
 - (4) Polystyrene Scrap Grinding in an enclosed grinder.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for a Federally Enforceable State Operating Permit (FESOP).

A.5 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either

- (1) incorporated as originally stated,
- (2) revised, or
- (3) deleted

by this permit.

(b) All previous registrations and permits are superseded by this permit.

SECTION B GENERAL CONDITIONS

B.1 Permit No Defense [IC 13]

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

B.2 Definitions [326 IAC 2-8-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2, and 326 IAC 2-7) shall prevail.

B.3 Permit Term [326 IAC 2-8-4(2)]

This permit is issued for a fixed term of five (5) years from the original date, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date.

B.4 Enforceability [326 IAC 2-8-6]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Termination of Right to Operate [326 IAC 2-8-9] [326 IAC 2-8-3(h)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

B.6 Severability [326 IAC 2-8-4(4)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.7 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

B.8 Duty to Supplement and Provide Information [326 IAC 2-8-3(f)] [326 IAC 2-8-4(5)(E)] [326 IAC 2-8-5(a)(4)]

(a) The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The submittal by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ, may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ, copies of records required to be kept by this permit or, for information claimed to be confidential, the Permittee may furnish such records directly to the U.S. EPA along with a claim of confidentiality. [326 IAC 2-8-4(5)(E)]
- (c) The Permittee may include a claim of confidentiality in accordance with 326 IAC 17. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.9 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.10 Compliance with Permit Conditions [326 IAC 2-8-4(5)(A)] [326 IAC 2-8-4(5)(B)]

- (a) The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for:
 - (1) Enforcement action;
 - (2) Permit termination, revocation and reissuance, or modification; and
 - (3) Denial of a permit renewal application.
- (b) It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- (c) An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

B.11 Certification [326 IAC 2-8-3(d)] [326 IAC 2-8-4(3)(C)(i)] [326 IAC 2-8-5(1)]

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a authorized individual of truth, accuracy, and completeness. This certification, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification.
- (c) An authorized individual is defined at 326 IAC 2-1.1-1(1).

B.12 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in letter form no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
- (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
 - (5) Such other facts as specified in Sections D of this permit, IDEM, OAQ, may require to determine the compliance status of the source.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.13 Preventive Maintenance Plan [326 IAC 1-6-3] [326 IAC 2-8-4(9)] [326 IAC 2-8-5(a)(1)]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The PMP and the PMP extension notification do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

B.14 Emergency Provisions [326 IAC 2-8-12]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided in 326 IAC 2-8-12.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describes the following:
 - (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone No.: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section) or,
Telephone No.: 317-233-5674 (ask for Compliance Section)
Facsimile No.: 317-233-5967

Failure to notify IDEM, OAQ, by telephone or facsimile within four (4) daytime business hours after the beginning of the emergency, or after the emergency is discovered or reasonably should have been discovered, shall constitute a violation of 326 IAC 2-8 and any other applicable rules. [326 IAC 2-8-12(f)]

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
 - (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
 - (e) IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.
 - (f) Failure to notify IDEM, OAQ, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.

- (g) Operations may continue during an emergency only if the following conditions are met:
- (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
 - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
 - (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
 - (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

- (a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provision), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.
- (c) Emergencies shall be included in the Quarterly Deviation and Compliance Monitoring Report.

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)] [326 IAC 2-8-7(a)] [326 IAC 2-8-8]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a FESOP modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
 - (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAQ, to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ, may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.17 Permit Renewal [326 IAC 2-8-3(h)]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

- (b) Timely Submittal of Permit Renewal [326 IAC 2-8-3]
 - (1) A timely renewal application is one that is:
 - (A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (B) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
 - (2) If IDEM, OAQ upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

- (c) Right to Operate After Application for Renewal [326 IAC 2-8-9]
If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ, any additional information identified as needed to process the application.

B.18 Permit Amendment or Revision [326 IAC 2-8-10] [326 IAC 2-8-11.1]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement the administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.19 Operational Flexibility [326 IAC 2-8-15] [326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at this source that are described in 326 IAC 2-8-15(b) through (d), without prior permit revision, if each of the following conditions is met:

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
- (3) The changes do not result in emissions which exceed the emissions allowable under this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
- (4) The Permittee notifies the:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (5) The Permittee maintains records on-site which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-8-15(b) through (d) and makes such records available, upon reasonable request, to public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ, in the notices specified in 326 IAC 2-8-15(b), (c)(1), and (d).

- (b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-8-15(a) and the following additional conditions:

- (1) A brief description of the change within the source;
- (2) The date on which the change will occur;
- (3) Any change in emissions; and
- (4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted by the Permittee does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) Emission Trades [326 IAC 2-8-15(c)]
The Permittee may trade increases and decreases in emissions in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).
- (d) Alternative Operating Scenarios [326 IAC 2-8-15(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ or U.S. EPA is required.

B.20 Permit Revision Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-8-11.1.

B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)] [IC 13-14-2-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

- (c) Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The application which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-11(b)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16]

- (a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action, or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-0425 (ask for OAQ, Technical Support and Modeling Section), to determine the appropriate permit fee.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emissions Limitations and Standards [326 IAC 2-8-4(1)]

C.1 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM) from the entire source shall be limited to less than one-hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(c) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2(3)]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and in 326 IAC 9-1-2.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.6 Operation of Equipment [326 IAC 2-8-5(a)(4)]

Except as otherwise provided by statute, rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission unit vented to the control equipment is in operation.

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-4 emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Indiana Accredited Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement that the inspector be accredited is federally enforceable.

Testing Requirements [326 IAC 2-8-4(3)]

C.8 Performance Testing [326 IAC 3-6]

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

C.10 Compliance Monitoring [326 IAC 2-8-4(3)] [326 IAC 2-8-5(a)(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Unless otherwise specified in the approval for the new emissions unit, compliance monitoring for new emission units or emission units added through a permit revision shall be implemented when operation begins.

C.11 Maintenance of Emission Monitoring Equipment [326 IAC 2-8-4(3)(A)(iii)]

- (a) In the event that a breakdown of the emission monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this permit until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no often less than once an hour until such time as the continuous monitor is back in operation.
- (b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

C.12 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing performed required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.13 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)] [326 IAC 2-8-5(1)]

- (a) Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.

- (b) Whenever a condition in this permit requires the measurement of a temperature, flow rate, or pH level, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (c) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

Corrective Actions and Response Steps [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

C.14 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

- (a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.
- (b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within ninety (90) days from the date of issuance of this permit.

The ERP does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.
- (d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.
- (e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.
- (f) Upon direct notification by IDEM, OAQ, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.15 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68.215]

If a regulated substance, subject to 40 CFR 68, is present at a source in more than a threshold quantity, 40 CFR 68 is an applicable requirement and the Permittee shall submit:

- (a) A compliance schedule for meeting the requirements of 40 CFR 68; or
- (b) As a part of the annual compliance certification submitted under 326 IAC 2-7-6(5), a certification statement that the source is in compliance with all the requirements of 40 CFR 68, including the registration and submission of a Risk Management Plan (RMP).

All documents submitted pursuant to this condition shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

C.16 Compliance Response Plan - Failure to Take Response Steps [326 IAC 2-8-4]

[326 IAC 2-8-5]

-
- (a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and is comprised of:
- (1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.
 - (2) If, at any time, the Permittee takes reasonable response steps are not set forth in the Permittee's current Compliance Response Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.
- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:
- (1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or
 - (2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.
 - (3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, the IDEM, OAQ shall be promptly notified of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.
 - (4) Failure to take reasonable response steps shall constitute a violation of the permit.
- (c) The Permittee not required to take any further response steps for any of the following reasons:
- (1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied.

- (3) An automatic measurement was taken when the process was not operating.
- (4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.
- (d) When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section B-Deviations from Permit Requirements and Conditions.
- (e) The Permittee shall record all instances when response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-8-12 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.
- (f) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

**C.17 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4]
[326 IAC 2-8-5]**

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The documents submitted pursuant to this condition do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

C.18 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

- (a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.19 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

- (a) The source shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (d) Unless otherwise specified in this permit, any quarterly report required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. The report does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) The first report covered the period commencing on the date of issuance of the original FESOP and ended on the last day of the reporting period. All subsequent reporting periods shall be based on calendar years.

C.20 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

- (a) Persons opening appliances for maintenance, service, repair or disposal must comply with the required practices pursuant to 40 CFR 82.156
- (b) Equipment used during the maintenance, service, repair or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- (c) Persons performing maintenance, service, repair or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (a) One (1) surface coating emission unit, identified as P001, consisting of the following:
 - (1) One (1) surface coating spray booth, identified as Door Edge Paint Booth, utilizing a HVLP spray application system, coating a maximum of 175 door edges per hour, using dry filters for particulate matter control, and exhausting to one (1) stack, identified as E1;
 - (2) One (1) surface coating touch-up spray booth, identified as Door Touch-up Booth, utilizing an air atomized spray application system, coating a maximum of 175 door edges per hour, using dry filters for particulate matter control, and exhausting to one (1) stack, identified as E2;
- (b) One (1) emission unit, identified as P002, utilizing a solvent based cleaning solution to hand wipe a maximum of 175 doors per hour and exhausting to general ventilation; and
- (c) One (1) roll coating emission unit, identified as P003, consisting of the following:
 - (1) Two (2) roll coating operations, identified as Adhesive Roll Coater 1 and Adhesive Roll Coater 2, coating a maximum of 175 doors per hour on a daily average, and exhausting to two (2) stacks, identified as E3 and E4, utilizing solvent for roller cleaning.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6-3-2]

The PM from the one (1) surface coating emission unit (P001) shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

D.1.2 Volatile Organic Compounds (VOCs) [326 IAC 8-2-9]

- (a) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coatings applied to metal door frames in P003 shall be limited to 3.0 pounds of VOC per gallon of coating less water delivered to the applicator for all other coatings and coating application systems.
- (b) Solvent sprayed from the application equipment during clean up or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

D.1.3 Volatile Organic Compounds (VOCs) [326 IAC 8-2-12]

Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coating applied to the wood doors in P001 shall utilize one of the following application methods:

Airless Spray Application
Air Assisted Airless Spray Application
Electrostatic Spray Application
Electrostatic Bell or Disc Application
Heated Airless Spray Application
Roller Coating
Brush or Wipe Application
Dip-and-Drain Application

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.1.4 Particulate Matter (PM)

In order to comply with Condition D.1.1, the dry filters for PM control shall be in operation at all times when the one (1) surface coating emission unit (P001) is in operation.

D.1.5 Monitoring

- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks (E1 and E2) while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.1.6 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.2 and D.1.3, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Conditions D.1.2 and D.1.3.
 - (1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

- (2) A monthly log of use;
 - (3) The cleanup solvent usage for each month;
 - (4) The total VOC usage for each month; and
 - (5) The weight of VOCs emitted for each compliance period.
- (b) To document compliance with Condition D.1.5, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (d) One (1) core burning emission unit, identified as P004, consisting of the following:
 - (1) Two (2) core burn units, identified as Core Burn Unit 1 and Core Burn Unit 2, for processing a maximum of 438 pounds of polystyrene sheet per hour on a daily average, and exhausting to two (2) stacks, identified as E5 and E6;
- (e) One (1) woodworking emission unit, identified as P005, utilizing a baghouse, identified as dust collector DC7 for particulate matter control, consisting of the following:
 - (1) One (1) table saw (M1);
 - (2) One (1) Miter saw (M2);
 - (3) One (1) rail machine (M4);
 - (4) One (1) Lockstile machine (M6);
 - (5) One (1) Hingestile machine (M7);
 - (6) One (1) tilting table saw (M9);
 - (7) One (1) planer (M13);
 - (8) One (1) beltsander (M14);
 - (9) One (1) lock block boring machine (M15), controlled by baghouse DC7 when boring wood materials and controlled by a cyclone, identified as CYC1, which vents to atmosphere, when boring polystyrene lock blocks;
 - (10) One (1) stile and rail machine (M16); and
 - (11) One (1) Alterna door sizer (M17).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.2.1 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from the woodworking facilities (P005) shall not exceed 7.85 pounds per hour when operating at a process weight rate of 5268 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

D.2.2 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

Compliance Determination Requirements

D.2.3 Particulate Matter (PM)

In order to comply with Condition D.2.1, the baghouse for PM control shall be in operation at all times that the woodworking operation (P005) is in operation.

D.2.4 Testing Requirements

Within 24 months of permit issuance, the Permittee shall perform emission testing on the core burning unit (P004) to verify the type and amount of pollutants emitted by this unit, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.2.5 Visible Emissions Notations

- (a) Daily visible emission notations of the woodworking process stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

D.2.6 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the woodworking process, at least once weekly when the woodworking process is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 0.0 and 2.5 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.2.7 Record Keeping Requirements

- (a) To document compliance with Condition D.2.5, the Permittee shall maintain records of daily visible emission notations of the woodworking process stack exhaust.
- (b) To document compliance with Condition D.2.6, the Permittee shall maintain the following:

- (1) Weekly records of the following operational parameters during normal operation when venting to the atmosphere:
 - (A) Differential static pressure across the fabric; and
 - (B) Verification of cleaning cycle operation.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.3

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (f) One (1) expandable polystyrene block molding operation, identified as P006, consisting of the following:
- (1) One (1) batch polystyrene beads pre-expander system, including one (1) pre-expander machine and six (6) steel pipe frame supported polyester storage bags for aging pre-expander beads, capable of processing a maximum average of 1,200 pounds per hour of polystyrene beads and a maximum of 15,000 pounds per day of polystyrene beads, containing a maximum average of 7% pentane by weight;
 - (2) One (1) block molding press for molding pre-expanded polystyrene beads to final shapes, utilizing steam to heat the pre-expanded beads;
 - (3) One (1) shaped products drying room;
 - (4) One (1) pentane emissions collection system connected to a 4,000 standard cubic feet per minute (scfm) draft blower;
The collection system consists of:
 - (a) Ductwork conveying process emissions and ventilation air from two permanent total enclosures, one enclosure containing the bead aging bags and pre-expander, and one enclosure containing the block aging room;
 - (b) Ductwork conveying block molder bead filling pneumatic transfer air;
 - (5) One (1) boiler oxidation steam system (BOSS) (thermal oxidizer) with heat recovery devices for controlling VOC emissions, equipped with a burner rated at 6.7 million British thermal units per hour, using a mixture of pentane-laden process and ventilation air and natural gas as combustion fuel; and
 - (6) One (1) regenerative thermal oxidizer, equipped with a burner rated at 7.2 million British thermal units per hour, using a mixture of pentane-laden process and ventilation air and natural gas as combustion fuel.
(The BOSS and the one (1) regenerative thermal oxidizer are in parallel with one another, each controlling part of the process air and ventilation air from the permanent total enclosures).
- (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.3.1 New Facilities, General Reduction Requirements [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), the source shall install and maintain the Best Available Control Technology (BACT) for the one (1) expandable polystyrene block molding operation, identified as P006, as described below.

- (a) EPS emission capture system consisting of:

Two (2) permanent total enclosures, each equipped with 4,000 scfm draft blowers, to capture VOC (as pentane) emitted from the EPS operation at:

- (1) The pre-expander and bead aging bags, and
- (2) The block mold aging room.

The expandable polystyrene (EPS) capture system shall achieve a one hundred (100) percent capture efficiency.

One (1) duct conveying emission from the block molder during bead filling operations to either the BOSS or regenerative thermal oxidizer.

- (b) EPS capture system exhaust shall be ducted to one (1) regenerative thermal oxidizer and one (1) BOSS. Combined emissions of VOC from the two control devices shall not exceed 3.83 tons per twelve consecutive month period.
- (c) Polystyrene bead aging at the EPS process shall be limited to 15,000 pounds of bead per day. Compliance with the requirements of this condition shall limit the potential to emit of the source to less than 100 tons per 12 consecutive month period. Therefore, the requirements of 326 IAC 2-7 (Part 70) shall not apply.

D.3.2 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for the emissions units and their control devices.

Compliance Determination Requirements

D.3.3 Testing Requirements [326 IAC 3-6] [326 IAC 2-8-5(a)(1),(4)] [326 IAC 2-1.1-11]

- (a) The Permittee shall perform initial compliance testing on the VOC emissions control system within forty-five (45) days after installation and achieving maximum facility production rate, but no later than 180 days after initial start-up. The following shall be conducted in order to demonstrate compliance with Condition D.3.1:
 - (1) The Permittee shall demonstrate compliance for the two permanent total enclosures using methods specified in 40 CFR 51, Appendix M, Method 204, or other methods as specified by the Commissioner. Testing shall be conducted in accordance with Section C - Performance Testing.

The enclosure differential pressure measured during enclosure capture verification testing shall be recorded.
 - (2) The Permittee shall perform VOC testing on the BOSS exhaust during operation of the pre-expander and block molder, utilizing methods as approved by the Commissioner, to determine an emission factor (units in pounds of VOC emitted per ton of polystyrene beads processed through the pre-expander). The emission factor used for compliance demonstration will be determined from the following equation:

$$EF = \text{Mass of VOC emitted during testing (lbs)} / \text{Mass of beads pre-expanded during testing (tons)}$$

The average operating temperature measured during emission factor verification testing shall be determined. Testing shall be conducted in accordance with Section C - Performance Testing.
 - (3) The Permittee shall perform VOC testing on the regenerative thermal oxidizer outlet, utilizing methods as approved by the Commissioner, to determine an emission factor (units in pounds of VOC emitted per ton of polystyrene beads processed through the pre-expander). The emission factor for the thermal oxidizer will be determined from a weighted average of two emission factor verification tests conducted during the same 24 hour bead expansion and aging cycle:
 - (a) The Permittee shall perform VOC testing on the regenerative thermal oxidizer exhaust during operation of the pre-expander and block molder.

- (b) The Permittee shall perform VOC testing on the regenerative thermal oxidizer exhaust during the bead and block aging period when pre-expansion and block molding are not conducted.

The weighted average emission factor used for compliance demonstration will be determined from the following equation:

$$EF = \text{VOC}_a \times T_a + \text{VOC}_b \times T_b / \text{tons of beads processed and aged in 24 hours}$$

Where VOC_a = VOC emission rate during pre-expansion and molding operations (lbs/hr)

VOC_b = VOC emission rate during pre-expansion and molding shutdown (lbs/hr)

T_a = number of hours spent running the pre-expander and block molder

T_b = number of hours for the pre-expander and block molder shutdown

The average operating temperature measured during emission factor verification testing shall be determined. Testing shall be conducted in accordance with Section C - Performance Testing.

- (4) The Permittee shall demonstrate that the figure used for the uncontrolled emissions from the release of the block molder is fifteen (15) percent of the potential uncontrolled VOC emissions from the entire operation.
- (b) The tests required in (a)(2) and (a)(3) shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. An emission factor shall be determined for each control device (BOSS and regenerative thermal oxidizer) following the most recent emission factor verification test.

D.3.4 VOC Emissions

In order to comply with Condition D.3.1, the following shall apply to the expandable polystyrene (EPS) block molding operation:

- (a) The BOSS and associated emissions collection blower shall be in operation at all times when the pre-expander system (including bead transportation) and block molding press are in operation.
- (b) The regenerative thermal oxidizer (rated at 7.2 MMBtu/hr) and associated emissions collection blower shall be in operation at all times.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.3.5 Volatile Organic Compound Control

- (a) When operating the one (1) expandable polystyrene block molding operation, the BOSS shall maintain a minimum operating temperature of 1,400°F or the average temperature measured during the emission factor verification tests used to develop the average VOC emission factor in accordance with D.3.3(b). The enclosure differential pressure shall be maintained at or above the values determined in the capture verification testing as specified in D.3.3(a)(1). The temperature of the burner of the boiler shall be continuously monitored and recorded whenever any of the facilities (block molding press and the bead expander) are in operation. Compliance with this condition shall deem 326 IAC 8-1-6 satisfied.
- (b) When operating the one (1) expandable polystyrene block molding operation, the regenerative thermal oxidizer shall maintain a minimum operating temperature of 1,450°F or the average temperature measured during the emission factor verification tests used to develop the average VOC emission factor in accordance with D.3.3(b).

The enclosure differential pressure shall be maintained at or above the values determined in the capture verification testing as specified in D.3.3(a)(1). The temperature of the burner of the regenerative thermal oxidizer shall be continuously monitored and recorded whenever any of the facilities (block molding press or the bead expander) are in operation. Compliance with this condition shall deem 326 IAC 8-1-6 satisfied.

D.3.6 Compliance Schedule

- (a) The source has six (6) months from the date of issuance of this permit to install the 4,000 scfm regenerative thermal oxidizer (rated at 7.2 MMBtu/hr) and the two permanent total enclosures to enclose the EPS system.
- (b) Within forty five (45) days of installing the 4,000 scfm regenerative thermal oxidizer and the two permanent total enclosures to enclose the EPS system, the source shall perform initial VOC testing as specified in Condition D.3.3(a).

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.3.7 Parametric monitoring

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the BOSS and the one (1) regenerative thermal oxidizer for measuring operating temperature. The output of this system shall be recorded, and that temperature shall be greater than 1400 F for the BOSS and 1450 F for the regenerative thermal oxidizer or a temperature greater than or equal to the temperature used to determine the emission factor for each device during the most recent emission factor verification stack test.
- (b) The enclosure differential pressure shall be observed at least once per week when the BOSS and the one (1) regenerative thermal oxidizer is in operation. This pressure shall be maintained as established in the capture verification testing in accordance with D.3.3(a)(1) or at a value that represents a higher flowrate.
- (c) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the reading is outside the above mentioned range for any one reading. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.3.8 Record Keeping Requirements

- (a) The Permittee shall maintain daily records of polystyrene bead usage. The records shall be complete and sufficient to establish compliance with the daily bead usage limits and/or the control device VOC emission limits established in Condition D.3.1. The records shall contain, as a minimum, the following information:
 - (1) The pounds of polystyrene beads used per day.
- (b) To document compliance with Conditions D.3.4 and D.3.5, the Permittee shall maintain the following records:
 - (1) The following operational parameters of the VOC emission control equipment:
 - (a) Data verifying that the permanent total enclosure meet the design criteria of EPA Method 204; or capture efficiency for those processes that are located in an enclosure unable to meet the design criteria of EPA Method 204;

- (b) Data used to develop the emission factor for each control device (lbs of VOC [as pentane] emitted per ton of bead processed through the pre-expander);
 - (c) Temperature readings.
- (c) To document compliance with Condition D.3.7, the Permittee shall maintain the following records:
 - (1) The following operational parameters of the VOC emission control equipment:
 - (a) Temperature readings;
 - (b) Weekly readings of the enclosure differential pressure.

D.3.9 Reporting Requirements

A quarterly summary of the information to document compliance with the VOC emission limit in Condition D.3.1(b) and the daily bead usage limit in Condition D.3.1(c) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the month being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
CERTIFICATION**

Source Name: Challenge Door of Indiana
Source Address: 200 Gerber Street, Ligonier, Indiana 46767
Mailing Address: P.O. Box 259, Ligonier, Indiana 46767
FESOP No.: F113-10260-00047

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- 9 Annual Compliance Certification Letter
- 9 Test Result (specify) _____
- 9 Report (specify) _____
- 9 Notification (specify) _____
- 9 Affidavit (specify) _____
- 9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH
P.O. Box 6015
100 North Senate Avenue
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT**

Source Name: Challenge Door of Indiana
Source Address: 200 Gerber Street, Ligonier, Indiana 46767
Mailing Address: P.O. Box 259, Ligonier, Indiana 46767
FESOP No.: F113-10260-00047

This form consists of 2 pages

Page 1 of 2

- | |
|---|
| <p>9 This is an emergency as defined in 326 IAC 2-7-1(12)
 (The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
 (The Permittee must submit notice in writing or by facsimile within two (2) days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16</p> |
|---|

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO ₂ , VOC, NO _x , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____
Title / Position: _____
Date: _____
Phone: _____

A certification is not required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Monthly Report

Source Name: Challenge Door of Indiana
Source Address: 200 Gerber Street, Ligonier, IN 46767
Mailing Address: P.O. Box 259, Ligonier, IN 46767
FESOP Permit No.: F113-10260-00047
Facility: Expandable Polystyrene Block Molding Operation (P006)
Parameter: VOC emissions
Limit: 15,000 pounds of polystyrene beads per day

Month: _____ Year: _____

Day				Day			
1				17			
2				18			
3				19			
4				20			
5				21			
6				22			
7				23			
8				24			
9				25			
10				26			
11				27			
12				28			
13				29			
14				30			
15				31			
16				no. of deviations			

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Challenge Door of Indiana
Source Address: 200 Gerber Street, Ligonier, IN 46767
Mailing Address: P.O. Box 259, Ligonier, IN 46767
FESOP No.: F113-10260-00047

Months: _____ to _____ Year: _____

Page 1 of 2

This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)

Date of Deviation:

Duration of Deviation:

Number of Deviations:

Probable Cause of Deviation:

Response Steps Taken:

Permit Requirement (specify permit condition #)

Date of Deviation:

Duration of Deviation:

Number of Deviations:

Probable Cause of Deviation:

Response Steps Taken:

Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

**Indiana Department of Environmental Management
Office of Air Quality**

**Addendum to the
Technical Support Document for Federally Enforceable State Operating
Permit (FESOP)**

Source Name: Challenge Door of Indiana
Source Location: 200 Gerber Street, Ligonier, IN 46767
SIC Code: 3086, 3442
County: Noble
Operation Permit No.: F113-10260-00047
Permit Reviewer: NH/EVP

On December 19, 2000, the Office of Air Quality (OAQ) had a notice published in the News-Sun, Kendallville, Indiana, stating that Challenge Door of Indiana had applied for a Federally Enforceable State Operating Permit (FESOP) for the operation of an insulated steel door manufacturing facility. The notice also stated that OAQ proposed to issue a FESOP for this operation and provided information on how the public could review the proposed FESOP and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this FESOP should be issued as proposed.

The FESOP permit has been revised to reflect the name change of the Office of Air Management (OAM) to the Office of Air Quality (OAQ).

On January 9, 2001, and July 16, 2001, Patty Richardson, Air Quality Program Manager of Jeld-Wen (owner of Challenge Door of Indiana) submitted comments on behalf of Challenge Door of Indiana on the proposed FESOP. The summary of the comments and corresponding responses are as follows, with Comments/Responses 1-8 pertaining to Ms. Richardson's January 9 submittal and Comments/Responses 9-11 pertaining to the July 16 submittal (bolded language has been added and language with a line through it has been deleted):

Comment 1

Condition B.12 (a, b, c)

In other states the agencies send the plant forms which specifically list all the conditions in the permit and spaces to certify compliance as intermittent or continuous. Does IDEM do that, or is just a letter required from the plant along with the certification form?

Response 1

Pursuant to Condition B.12, the permittee shall annually submit a compliance certification report which addresses the status of the sources's compliance with the terms and conditions contained in the permit, including emission limitations, standards, or work practices. The only form currently provided by IDEM is the certification report form located at the back of the permit which shall be included with the compliance certification report. The IDEM is developing a non rule policy document to provide guidelines for the submittal and review of annual compliance certifications. For more information regarding this, please contact Mr. Roger Letterman of the OAQ at (317) 232-8342. No changes have been made to the permit as a result of this comment.

Comment 2

Condition C.19 Quarterly deviation and compliance report

326 IAC 2-8-4(3)(C)(1) states the reporting should be done at least every 6 months. Why is the plant being asked to do a quarterly report instead of a semi-annual report?

Response 2

IDEM has authority to require quarterly reports. Reports must be submitted at least every six months under 326 IAC 2-7-5(3)(C)(i). OAQ believes that a period of time longer than every quarter will usually not provide sufficient reporting of continuous compliance. There may be fact specific cases that would qualify for semi-annual reporting. There will be no changes to this condition in the final permit due to this comment.

Comment 3

Condition D.2.7(b)(1)(B)

Please explain what this means/what is required here.

Response 3

Cleaning cycle operation refers to the frequency (dates) and method of cleaning (example shaking, jetpulse, etc.) for the woodworking operation baghouse. No changes have been made to the permit as a result of this comment.

Comment 4

In the public comment section, it should be specified that the potential to emit of 151.49 is "uncontrolled". I don't know if this can be changed or amended at this point or not.

Response 4

The public notice specifies that the potential to emit of VOC is 151.49 tons per year. The next sentence states that VOC emissions are limited to less than 100 tons per year. By definition, as contained in the Technical Support Document (TSD) to the draft FESOP, "potential to emit" reflects uncontrolled pollutant (e.g., VOC) emissions.

Comment 5

Emissions Limitations and Standards, D.3.1 and D.3.3

As per our update to the application, dated July, 1999, and SECOR's request for changes dated Oct. 2, 2000, we have asked for a limit of 50% capture and 98% destruction as per the manufacturer's recommendations and to allow the facility some flexibility in future source tests. The listings of 53% capture and 99.6% capture were from the results of the latest source test and demonstrate compliance only. We do not wish to use these parameters as limits.

The use of 99.6% destruction efficiency are also inconsistent with condition D.3.5 which does list 98% destruction efficiency.

Response 5

Please refer to additional OAQ revisions; beginning on page 6 and continuing through page 15 herein. Revisions to Section D.3 have been made as discussed therein.

Comment 6

Technical Support Document

Please remove all references to the hourly capacity of the bead expansion system that state 625 lbs bead/hour. The hourly process rate for this system should be listed as 1200 lbs beads/hour and maximum daily of 15,000 lbs/day.

The 625 lbs/hour was derived from 15,000 lb/hr divided by 24 hrs/day. It is not possible to run the expander 24 hrs/day before the aging bags are full and the 15,000 lbs/day maximum is reached.

Response 6

The equipment listed at Sections A.2 and D.3 of the FESOP has been revised to correctly describe the facility rating as requested without replication herein.

Comment 7

Page 9, table at the top of the page and Appendix A, page 6, 2 references

- 1) Uses a boiler oxidation steam system (BOSS) and a material usage limitation of 15,000 lbs beads/day (equivalent to 625 lbs bead/hour) and 1200 lbs/hour
- 2) Uncontrolled VOC emissions = 15,000 lb/day x 365 days/year.....continue calculation.

Response 7

On June 4, 2001, a revised BACT analysis was received from Challenge Door. This comment refers to the BACT analysis found in the technical support document which is replaced with the revised BACT analysis received on June 4, 2001. Please see Response 5.

Comment 8

Condition D.3.7 Monthly bead usage reporting

Challenge Door of Indiana would like to ask that this reporting condition be changed to quarterly or semi-annually reporting instead of monthly. The plant currently keeps daily logs of bead usage and monthly reporting seems excessive since the plant has not exceeded the 15,000 lb limit in the past. It would be much more convenient for the plant to send quarterly reports of the monthly summaries along with the required quarterly or semi-annual compliance report.

Response 8

Reporting Condition D.3.7 (now re-numbered D.3.9) has been changed from monthly to quarterly. The change has been made without replication herein.

Comment 9

Delete references to metal doors or door skins as a small portion of the operation uses wood panel door skins.

Page 5 of 39, A.2(C)(1) change to "175 doors per hour".

Response 9

The following changes have been made to Section A.2.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

- (c) One (1) roll coating emission unit, identified as P003, consisting of the following:
 - (1) Two (2) roll coating operations, identified as Adhesive Roll Coater 1 and Adhesive Roll Coater 2, coating a maximum of 175 ~~metal doors skins~~ per hour, and exhausting to two (2) stacks, identified as E3 and E4;

Comment 10

Use references to "door" not "skins" as per the application. Also, use daily average for hourly rates.

Page 5 of 39, Section D.1(C)(1) change to "175 doors per hour on daily average".

Page 1 of 11 on technical support document (C)(1), change to "175 doors per hour on daily average".

Response 10

The following changes have been made to Section A.2 and to the facility description box in Section D.1.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

- (c) One (1) roll coating emission unit, identified as P003, consisting of the following:
 - (1) Two (2) roll coating operations, identified as Adhesive Roll Coater 1 and Adhesive Roll Coater 2, coating a maximum of 175 ~~metal doors skins~~ per hour **on a daily average**, and exhausting to two (2) stacks, identified as E3 and E4;

Facility Description [326 IAC 2-8-4(10)]:

- (a) One (1) surface coating emission unit, identified as P001, consisting of the following:
 - (1) One (1) surface coating spray booth, identified as Door Edge Paint Booth, utilizing a HVLP spray application system, coating a maximum of 175 door edges per hour, using dry filters for particulate matter control, and exhausting to one (1) stack, identified as E1;
 - (2) One (1) surface coating touch-up spray booth, identified as Door Touch-up Booth, utilizing an air atomized spray application system, coating a maximum of 175 door edges per hour, using dry filters for particulate matter control, and exhausting to one (1) stack, identified as E2;
- (b) One (1) emission unit, identified as P002, utilizing isopropyl alcohol to hand wipe a maximum of 175 doors per hour and exhausting to general ventilation; and
- (c) One (1) roll coating emission unit, identified as P003, consisting of the following:
 - (1) Two (2) roll coating operations, identified as Adhesive Roll Coater 1 and Adhesive Roll Coater 2, coating a maximum of 175 ~~metal~~ doors ~~skins~~ per hour **on a daily average**, and exhausting to two (2) stacks, identified as E3 and E4.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Comment 11

For the core embossers, this is really a batched process due to the time it takes to change the platens for door style and then reheat them. It is possible to do more than 438 lbs of polystyrene sheets per individual hour, but not likely because they rarely emboss that much of one type at a time.
Page 5 of 39, (a)(2)d and technical support document page 5 of 11 (d)(1) change to "maximum 438 lbs polystyrene per hour on a daily average".

Response 11

The following changes have been made to Section A.2.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

- (d) One (1) core burning emission unit, identified as P004, consisting of the following:
 - (1) Two (2) core burn units, identified as Core Burn Unit 1 and Core Burn Unit 2, for processing a maximum of 438 pounds of polystyrene sheet per hour **on a daily average**, and exhausting to two (2) stacks, identified as E5 and E6;

Upon further review, and in addition to the Comments/Responses presented above, the OAQ has decided to make the following changes to draft FESOP 113-10260-00047:

Section D.3

1. On November 30, 1999, IDEM issued a Notice of Deficiency for non-compliance with the applicable requirements of 326 IAC 8-1-6 (New Facilities, General Reduction Requirements). These requirements are pursuant to Construction Permit CP113-8529-00047, issued on September 29, 1997, and require the source to reduce VOC (as pentane) emissions from the expandable polystyrene block molding operation, identified as P006, by using the boiler oxidation steam system (BOSS) to achieve an 80% emissions capture efficiency and a 98% emissions destruction efficiency. Such requirements were determined as best available control technology (BACT) for this facility. However, a compliance test performed on July 13-14, 1999 showed the BOSS to be achieving only a 53% VOC capture efficiency. As a result, and pursuant to an IDEM request dated March 28, 2001, the source has prepared a new BACT analysis for the affected facility which evaluates all potential methods of VOC control both with and without the BOSS. The analysis, prepared by SECOR International as the consultant to Challenge Door of Indiana, was received by IDEM on June 4, 2001.

Based on a review of the revised BACT analysis, Conditions D.3.1, D.3.3, D.3.4, D.3.5 have been revised; new Conditions D.3.6 and D.3.7 are added; and draft Condition D.3.6 and D.3.7 have been re-numbered to D.3.8 and D.3.9, respectively. Further, a new set of Construction Conditions are added at the beginning of Section D.3, as relates to the installation of the new control equipment, as described below. These new and revised conditions are presented after the BACT review and final determination that follows (new condition language in bold and deleted condition language with a line through it):

The expanded polystyrene (EPS) block molding system at Challenge Door consists of four (4) steps: bead pre-expansion, bead aging, block molding and block aging. However, the Challenge Door EPS process is bottlenecked by the bead aging step. The bead aging bags can store and age only 15,000 lbs of bead/day. Due to the bottleneck in the process, potential VOC emissions from the EPS system are 130.6 tons per year.

From years of experience with EPS systems, Mr. Couganhour (an independent consultant on EPS processes and control systems, contracted by JELD-WEN, owner of Challenge Door) determined that emissions of pentane from the pressurization and release of block molders are problematic to control. As a result, he recommends a capture system that does not include capture of emissions from the pressurization and release phases of the block molding step, but only the vacuum phase in which the block molder is filled with aged bead. The pressurization and release phases of block molding were determined to potentially account for 19.7 tons of pentane emissions per year based on the bead testing conducted September 2, 1999. Thus, only 110.9 tons of VOC per year will be captured by options 5, 6, and 7 (capture efficiency of 85%).

Options Considered

- 1) Low Pentane Beads
- 2) Boiler Oxidation Steam System As Is
- 3) Carbon Adsorption with or without the BOSS
- 4) Biofiltration with or without the BOSS
- 5) Regenerative Thermal Oxidation with the BOSS for supplemental control
- 6) Regenerative Thermal Oxidation without use of the BOSS for control
- 7) Gas-fired Co-generation turbine without use of the BOSS

Technically Infeasible Options

1) Low Pentane Beads

Challenge Door attempted several times to use low pentane beads in the EPS process during the winter months of 2000 with no success. Blocks removed from the block molder had cavities that did not fill or the block itself did not fully fit the mold when removed. As a result, the use of low pentane beads is considered technically infeasible for use in the Challenge Door EPS process. It has not been determined why the use of low pentane beads would not work. However, one possibility is that the beads did not contain enough remaining pentane following bead aging to expand fully to a final size in the block molder equivalent to the pentane beads currently used.

3) Carbon Adsorption with or without the BOSS

Carbon bed technologies are an effective way to collect VOC emissions as long as the beds are able to adsorb and desorb VOC emissions effectively. The EPS process generates a well known quantity of pentane, for which carbon beds would work well. However, the EPS process is likely to generate a certain amount of styrene monomer. Mr. Couganhour recommended against carbon bed technologies for EPS emission control because the presence of styrene monomer can mask the carbon sites, thereby, significantly reducing the adsorption capacity of the bed over time.

SECOR contacted fluidized bed concentrator companies Huntington Environmental and Environmental C&C, Inc. to inquire about the usefulness of the concentrator in control pentane emissions. Both indicated that the concentrator would work very well for controlling pentane, but neither could estimate the performance in the presence of styrene monomer emissions. For this reason, carbon bed based technologies are not considered technically feasible for use with the EPS process.

4) Biofiltration with or without the BOSS

Biofiltration is an effective and environmentally sound method of controlling VOC emissions utilizing naturally occurring biological organisms. However, a major disadvantage of this system is that interruptions to the VOC supply can result in the death of the biological organisms. Therefore, this type of system requires a fairly steady supply of VOC emissions to feed the bacteria. The Challenge Door EPS process has highly variable pentane emissions that fluctuate when the pre-expander and block molder are used during the daytime. Process interruptions and downtimes in addition to VOC concentration changes could significantly damage the biological media. This, in turn, could significantly impact the control efficiency of the device. As a result, this technology is not considered technically feasible for application to the Challenge Door EPS process.

The technically feasible options are:

- 2) BOSS as is
- 5) Regenerative Thermal Oxidation with the BOSS for Supplemental Control
- 6) Regenerative Thermal Oxidation without use of the BOSS for control
- 7) Gas-fired Co-generation Turbine without use of the BOSS

BOSS Control Costs

In the current analysis, SECOR includes only one add-on control technology option, a 4,000 scfm regenerative thermal oxidizer. The BOSS in this scenario provides process steam during the pre-expander and block molder operations as well as emission control. During off-shift hours only the RTO operates to control bead and block aging emissions. SECOR discussed the use of BOSS installation and operational costs in the analysis of add-on technologies with Mr. Janusz Johnson of IDEM on March 21, 2001, since the BOSS operates in part as a control device with inherent control costs. Based on this conversation it was decided that costs associated with the BOSS can be considered in the cost of implementing add-on technologies for that amount that would exceed the cost of installing a package boiler with the sole function of providing process steam. Mr. Allan Johnson of Ship & Shore Environmental provided a cost estimate of \$65,000 for a package boiler of necessary size to replace the BOSS. The BOSS by comparison cost \$169,000 including ductwork and modifications to combust pentane. For analysis of the RTO add-on option SECOR assumed a BOSS related initial capital cost of \$104,000.

A cost analysis was performed to determine the economic feasibility of these four (4) options. The cost analysis is based on potential VOC emissions of 130.6 tons per year.

The tables below show the results of the cost analysis.

Capital Cost

Option	Base Price	Direct Cost	Indirect Cost	Total
RTO + BOSS	\$433,300	included in base price	\$24,000	\$457,300
RTO	\$444,300	included in base price	\$22,000	\$466,300
Gas Turbine	\$839,300	included in base price	\$30,000	\$869,300

Annual Operating, Maintenance & Recovery Cost

Option	Direct Cost	Indirect Cost	Recovery Cost	Total
RTO + BOSS	\$53,573	\$28,900	\$74,400	\$156,873
RTO	\$74,773	\$29,300	\$75,900	\$179,973
Gas Turbine	\$259,473	\$45,400	\$141,500	\$446,373

Evaluation

Option	Potential Emissions (tons/yr)	Emissions Removed (tons/yr)	Control Efficiency* (%)	\$/ton removed
RTO + BOSS	130.6	110.1	84.32	\$1,424.82
RTO	130.6	109.9	84.15	\$1,637.61
Gas Turbine	130.6	106.6	81.60	\$4,187.36

*Control Efficiency = Capture Efficiency * Destruction Efficiency

Capture efficiency for all three systems is 85%, destruction efficiency is 99.2% (for RTO + BOSS), 99% (for RTO) and 96% (for Gas Turbine)

Methodology:

Emissions removed = (potential emissions) * (control efficiency)

\$/ton removed = total annual cost / emissions removed

The cost breakdown is as follows:

1. Capital Cost
 - a) Base price: basic equipment and auxiliaries, instrumentation, freight and taxes, foundations and supports, erection and handling, electrical, piping, insulation for ductwork, painting, building and site preparation, engineering costs, construction and field expenses, contractor fees, permits and contingencies
 - b) Direct cost: is included in base price
 - c) Indirect cost: startup and performance test
2. Annual Cost
 - a) Direct cost: raw materials, utilities, labor, maintenance materials and replacement parts
 - b) Indirect cost: overhead, property tax, insurance and administration
 - c) Recovery cost (for 10 years life of the system at 10% interest rate)

Based on a "top-down" BACT analysis using EPA's Draft 1990 guidance document, New Source Review Workshop Manual, regenerative thermal oxidation in combination with the existing BOSS was determined to have the highest overall control efficiency as well as the lowest annualized cost per ton of pentane controlled. Two other control options had very similar control efficiencies, but were more expensive on an annualized basis.

Regenerative Thermal Oxidation with the BOSS for Supplemental Control

Regenerative Thermal Oxidation is a well established method for combusting VOC emissions. To apply this to the Challenge Door facility would require a permanent total enclosure to be built surrounding the EPS process to contain emissions of pentane. The BOSS system would operate during pre-expander and block molder operation to provide steam for the process and control of 4,000 scfm from the enclosure. An RTO would be used to control an additional 4,000 scfm from the enclosure. At the end of the day shift, when the pre-expander and block molder operations are concluded and there is no longer a steam demand or emissions of pentane from these sources, the BOSS would be shut down. The RTO would continue to operate to capture and control emissions of pentane from the bead aging bags and the block aging room. This system would have a destruction efficiency of 99.2%. All pentane would be collected except for pentane emitted during release of the block mold. As a result, the capture efficiency would be approximately 85%.

The use of total enclosure and subsequent combustion of the captured emissions has a long history as a technically feasible method for controlling VOC emissions. Applied to this case, the cost of less than \$1500 per ton of VOC destroyed is considered economically feasible. Therefore, the conclusion of this analysis is that the BACT would be installation of a 4,000 scfm regenerative thermal oxidizer in combination with operation of the BOSS and installation of two permanent total enclosures to enclose the EPS system.

- 1) The 7.2 MMBtu/hr thermal oxidizer is being added to Section A.2 and to the facility description box in Section D.3.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

- (f) One (1) expandable polystyrene block molding operation, identified as P006, consisting of the following:
 - (1) One (1) batch polystyrene beads pre-expander system, including one (1) pre-expander machine and six (6) steel pipe frame supported polyester storage bags for aging pre-expander beads, capable of processing 1,200 pounds per hour of polystyrene beads **and a maximum of 15,000 pounds per day of polystyrene beads**, containing a maximum of 6.7% pentane by weight;
 - (2) One (1) block molding press for molding pre-expanded polystyrene beads to final shapes, utilizing steam to heat the pre-expanded beads;
 - (3) One (1) shaped products drying room;
 - (4) One (1) pentane emissions collection system connected to a 4,000 standard cubic feet per minute (scfm) draft blower; ~~and~~
 - (5) One (1) **boiler oxidation steam system (BOSS)** (thermal oxidizer) with heat recovery devices, equipped with a burner rated at 6.7 million British thermal units per hour, using pentane-laden waste air and natural gas mixture as combustion fuel; **and**

- (6) **One (1) regenerative thermal oxidizer, equipped with a burner rated at 7.2 million British thermal units per hour, using natural gas as combustion fuel.**

(The BOSS and the one (1) regenerative thermal oxidizer are in parallel with one another).

SECTION D.3

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (f) One (1) expandable polystyrene block molding operation, identified as P006, consisting of the following:
- (1) One (1) batch polystyrene beads pre-expander system, including one (1) pre-expander machine and six (6) steel pipe frame supported polyester storage bags for aging pre-expander beads, capable of processing 1,200 pounds per hour of polystyrene beads **and a maximum of 15,000 pounds per day of polystyrene beads**, containing a maximum of 6.7% pentane by weight;
 - (2) One (1) block molding press for molding pre-expanded polystyrene beads to final shapes, utilizing steam to heat the pre-expanded beads;
 - (3) One (1) shaped products drying room;
 - (4) One (1) pentane emissions collection system connected to a 4,000 standard cubic feet per minute (scfm) draft blower; **and**
 - (5) One (1) **boiler oxidation steam system (BOSS)** (thermal oxidizer) with heat recovery devices for controlling VOC emissions, equipped with a burner rated at 6.7 million British thermal units per hour, using pentane-laden waste air and natural gas mixture as combustion fuel-; **and**
 - (6) **One (1) regenerative thermal oxidizer, equipped with a burner rated at 7.2 million British thermal units per hour, using natural gas as combustion fuel.**
- (The BOSS and the one (1) regenerative thermal oxidizer are in parallel with one another).*

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

- 2) Based on the conclusion of the BACT, the following changes have been made to Condition D.3.1.

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.3.1 New Facilities, General Reduction Requirements [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), **the source shall install and maintain** the Best Available Control Technology (BACT) for the one (1) expandable polystyrene block molding operation, identified as P006, ~~is as~~ described below.

~~The existing boiler oxidation steam system (BOSS) with a 53% capture efficiency and 99.6% destruction efficiency and a material usage limitation of 15,000 pounds of polystyrene beads per day are considered as BACT for the one (1) expandable polystyrene block molding operation.~~

- (a) **Two (2) permanent total enclosures, each equipped with 4,000 scfm draft blowers, to capture VOC (as pentane) emitted from the EPS operation at:**

- (1) The pre-expander and bead aging bags, and
- (2) The block mold aging room.

The expandable polystyrene (EPS) capture system shall achieve a minimum eighty-five percent (85%) capture efficiency and shall not include VOC (as pentane) emitted during release of the block mold.

- (b) EPS capture system exhaust shall be ducted to one (1) regenerative thermal oxidizer equipped with a 7.2 MMBtu/hr burner, and one (1) BOSS equipped with a 6.7 MMBtu/hr burner, each with a minimum ninety-nine and six tenths percent (99.6%) destruction efficiency.
 - (c) Polystyrene bead aging at the EPS process shall be limited to 15,000 pounds per day. Compliance with the requirements of this condition shall limit the potential to emit of the source to less than 100 tons per 12 consecutive month period. Therefore, the requirements of 326 IAC 2-7 (Part 70) shall not apply.
- 3) The following changes have been made to Condition D.3.3.

D.3.3 Testing Requirements [326 IAC 3-6] [326 IAC 2-8-5(a)(1),(4)] [326 IAC 2-1.1-11]

- (a) The Permittee shall perform initial compliance testing on the VOC emissions control system within forty-five (45) days after installation and achieving maximum facility production rate, but no later than 180 days after initial start-up. The following shall be conducted in order to demonstrate compliance with Condition D.3.1:
 - (1) The Permittee shall demonstrate compliance with the minimum control system efficiency of 85% VOC emission capture using methods specified in 40 CFR 51, Appendix M, Method 204, or other methods as specified by the Commissioner. Testing shall be conducted in accordance with Section C - Performance Testing.
 - (2) The Permittee shall perform VOC testing on the 6.7 MM Btu/hr thermal oxidizer (i.e., BOSS system) BOSS, utilizing methods as approved by the Commissioner, to determine the minimum operating temperature that will achieve 53% capture efficiency and 99.6% destruction efficiency for this oxidizer. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.
 - (3) The Permittee shall perform VOC testing on the 7.2 MMBtu/hr regenerative thermal oxidizer, utilizing methods as approved by the Commissioner, to determine the minimum operating temperature that will achieve 99.2% destruction efficiency for this oxidizer. Testing shall be conducted in accordance with Section C - Performance Testing.
- (b) The tests required in (a)(2) and (a)(3) shall be repeated at least once every five (5) years from the date of this valid compliance demonstration.

- 4) The following changes have been made to Condition D.3.4.

D.3.4 VOC Emissions

In order to comply with Condition D.3.1, the **following shall apply to the expandable polystyrene (EPS) block molding operation:** ~~one (1) thermal oxidizer, shall be in operation at all times when the pre-expander system (including bead transportation) and block molding press of the one (1) expandable polystyrene block molding operation are in operation.~~

- (a) **The two (2) EPS capture systems, with emissions collection draft blowers, shall operate at all times.**
- (b) **The BOSS shall be in operation at all times when the pre-expander system (including bead transportation) and block molding press are in operation.**
- (c) **The regenerative thermal oxidizer (rated at 7.2 MMBtu/hr) shall be in operation at all times.**

- 5) The following changes have been made to Condition D.3.5.

D.3.5 Volatile Organic Compound Control

- (a) When operating the one (1) expandable polystyrene block molding operation, the ~~one (1) regenerative thermal oxidizer~~ **BOSS** shall maintain a minimum operating temperature of 1,400°F or a temperature, fan amperage and duct velocity determined in the most recent compliance stack tests to maintain at least ~~98%~~ **99.6%** destruction efficiency. The temperature of the burner of the thermal oxidizer shall be continuously monitored and recorded whenever any of the facilities (block molding press and the bead expander) are in operation. Compliance with this condition shall deem 326 IAC 8-1-6 satisfied.
- (b) **When operating the one (1) expandable polystyrene block molding operation, the 7.2 MMBtu/hr regenerative thermal oxidizer shall maintain a minimum operating temperature of 1,450°F or a temperature, fan amperage and duct velocity determined in the most recent compliance stack tests to maintain at least 99.2% destruction efficiency. The temperature of the burner of the regenerative thermal oxidizer shall be continuously monitored and recorded whenever any of the facilities are in operation. Compliance with this condition shall deem 326 IAC 8-1-6 satisfied.**

- 6) Conditions D.3.6 and D.3.7 have been added to the permit.

D.3.6 Compliance Schedule

- (a) **The source has six (6) months from the date of issuance of this permit to install the 4,000 scfm regenerative thermal oxidizer (rated at 7.2 MMBtu/hr) and the two permanent total enclosures to enclose the EPS system.**
- (b) **Within forty five (45) days of installing the 4,000 scfm regenerative thermal oxidizer and the two permanent total enclosures to enclose the EPS system, the source shall perform initial VOC testing as specified in Condition D.3.3(a) to determine the capture and destruction efficiencies of the control system.**

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.3.7 Parametric monitoring

- (a) **A continuous monitoring system shall be calibrated, maintained, and operated on the BOSS and the one (1) regenerative thermal oxidizer for measuring operating temperature. The output of this system shall be recorded, and that temperature shall be greater than or equal to the temperature used to demonstrate compliance during the most recent compliance stack test.**
- (b) **The duct pressure or fan amperage shall be observed at least once per week when the BOSS and the one (1) regenerative thermal oxidizer is in operation. This pressure or amperage shall be maintained as established in the most recent compliance stack test.**
- (c) **The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the reading is outside the above mentioned range for any one reading. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.**

7) The following D conditions have been re-numbered.

D.3.68 Record Keeping Requirements

- (a) The Permittee shall maintain records of the materials used that contain any VOCs. The records shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in eCondition D.3.1. The records shall contain, as a minimum, the following information:
 - (1) The pounds of polystyrene beads used per day.
- (b) To document compliance with Conditions D.3.4 and D.3.5, the Permittee shall maintain the following records:
 - (1) The following operational parameters of the VOC emission control equipment:
 - (a) Capture efficiency;
 - (b) Destruction (or removal) efficiency;
 - (c) Data used to establish the capture and destruction (or removal) efficiencies; and
 - (d) Temperature readings.
- (c) **To document compliance with Condition D.3.7, the Permittee shall maintain the following records:**
 - (1) **The following operational parameters of the VOC emission control equipment:**

(a) Temperature readings.

D.3.79 Reporting Requirements

A ~~monthly~~ **quarterly** summary of the information to document compliance with the daily bead usage limit in Condition D.3.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the month being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- 8) B.10 Compliance with Permit Conditions has been revised to clarify that noncompliance with any requirement of this permit may result in an enforcement action against the permittee, an action to modify, revoke, reissue or terminate the source's permit, and/or a denial of the permittee's application to renew the permit.

B.10 Compliance with Permit Conditions [326 IAC 2-8-4(5)(A)] [326 IAC 2-8-4(5)(B)]

- (a) The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit, ~~except those specifically designated as not federally enforceable~~, is grounds for:
- (1) Enforcement action;
 - (2) Permit termination, revocation and reissuance, or modification; and
 - (3) Denial of a permit renewal application.
- (b) It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- (c) An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in condition B, Emergency Provisions.

On November 8, 2001, Chad Darby, Senior Engineer at Secor International Incorporated (consultant for Challenge Door of Indiana) submitted comments on behalf of Challenge Door of Indiana on the proposed FESOP. The summary of the comments and corresponding responses are as follows (bolded language has been added and language with a line through it has been deleted):

Comment 12

Emission Unit P001: Surface Coating Spray Booths

Challenge Door uses a protective water-based coating in the Door Edge Paint Booth to apply coatings to the edge of insulated wood doors produced by the facility. This most used coating contains approximately 1.42 lbs of VOC per gallon. As a result, the edge spraying operations, which use approximately 2.73 gallons per hour, as stated in the Title V Permit, have an uncontrolled potential to emit greater than 15 lbs of VOCs per day. Currently the draft FESOP condition D.1.3 states:

“Any change or modification which would increase the potential to emit VOC from the one (1) surface coating emission unit (identified as P001) to fifteen (15) pounds per day or more, shall obtain prior approval from IDEM, OAM and shall be subject to the requirements of 326 IAC 8-2-12.”

Due to the fact that coatings are applied to the wood edges of the assembled wood doors with a VOC potential to emit that exceeds 15 lbs per day, this condition should be removed and replaced with the condition that the emission unit will be subject to 326 IAC 8-2-12. Because the facility currently applies edge coating with an airless sprayer, the facility is in compliance with the conditions of 326 IAC 8-2-12.

Response 12

326 IAC 8-2-12 is now applicable to P001 and is being included in Condition D.1.3.

D.1.3 Volatile Organic Compounds (VOCs) [326 IAC 8-2-12]

~~Any change or modification which would increase the potential to emit VOC from the one (1) surface coating emission unit (identified as P001) to fifteen (15) pounds per day or more, shall obtain prior approval from IDEM, OAM and shall be subject to the requirements of 326 IAC 8-2-12.~~

Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coating applied to the wood doors in P001 shall utilize one of the following application methods:

**Airless Spray Application
Air Assisted Airless Spray Application
Electrostatic Spray Application
Electrostatic Bell or Disc Application
Heated Airless Spray Application
Roller Coating
Brush or Wipe Application
Dip-and-Drain Application**

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

Comment 13

Emission Unit P003: Adhesive Roll Coaters 1 and 2

Challenge Door applies adhesives to both wood and metal door frames over which wood fiber or metal door skins are placed, respectively. The adhesive is applied with roll coaters that must be cleaned of adhesive solids at the end of each shift. The cleaner currently used is DBE (Dibasic Ester), which is 100% comprised of volatile organic compounds (VOCs). Depending upon the build-up of adhesive solids on the rollers, more or less DBE is required for cleaning. Cleaning solution that runs off the rollers is collected for disposal.

Condition D.1.2 of the current draft version of the FESOP for Challenge Door states:

“Any change or modification which would increase the potential to emit VOC from the one (1) surface coating emission unit (identified as P001) to fifteen (15) pounds per day or more, shall obtain prior approval from IDEM, OAM and shall be subject to the requirements of 326 IAC 8-2-12.”

While a limit of 15 lbs per day has been sufficient to account for VOCs from adhesives and cleaning solvents on an actual basis, the facility requests that this condition be changed to allow for times when, potentially, more cleaning solvents will be needed. To remove the limit in condition D.1.2 from the FESOP as it is currently written requires the facility to meet the requirements of 326 IAC 8-2-9. The applicable sections of these requirements state:

“(d) No owner or operator of a facility engaged in the surface coating of miscellaneous metal parts and products may cause, allow, or permit the discharge into the atmosphere of any volatile organic compounds in excess of the following:

4) Thirty-six hundredths (0.36) kilograms per liter (three (3) pounds per gallon) of coating, excluding water, delivered to a coating applicator for all other coatings and coating application systems.

(f) Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.”

The adhesive coatings applied by Challenge Door are water-based and currently contain less than 0.013 lbs of VOCs/gallon. Solvents that are used in cleaning are collected, stored in sealed containers, and disposed of appropriately. As a result, Challenge Door wishes to have the limit in condition D.1.2 removed and replaced with only the requirement to meet the conditions of 326 IAC 8-2-9, for which the facility is already compliant. Due to the fact that adhesives are also applied to wood door core frames, the conditions of 326 IAC 8-2-12 are also applicable. The facility is also in compliance with this rule requiring coatings to be applied by one of a number of different methods, one of which is rollcoating.

Response 13

326 IAC 8-2-9 is now applicable to P003 and is being included in Condition D.1.2.

D.1.2 Volatile Organic Compounds (VOCs) [326 IAC 8-2-9]

~~Any change or modification which would increase the potential to emit VOC from the one (1) roll coating emission unit (identified as P003) to fifteen (15) pounds per day or more, shall obtain prior approval from IDEM, OAM and shall be subject to the requirements of 326 IAC 8-2-9.~~

- (a) **Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coatings applied to metal door frames in P003 shall be limited to 3.0 pounds of VOC per gallon of coating less water delivered to the applicator for all other coatings and coating application systems.**
- (b) **Solvent sprayed from the application equipment during clean up or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.**

Comment 14

New Emission Unit: Lock Block Boring

To accommodate door locks, dense blocks of polystyrene (5 lbs/cubic foot) are bored out for incorporation into assembled doors. The boring is accomplished with an existing lock block boring machine, M15, which was included in the original Title V Operating Permit application and is listed in the current draft of the FESOP for Challenge Door. In the current draft of the FESOP, the lock block boring machine, M15, is listed as a device in emission unit P005. When used for boring wood, the emissions are directed to baghouse DC-7. The baghouse, DC-7, is included in the draft FESOP for controlling particulate emissions from emission unit P005.

The emission collection system for M15 can be valved to direct emissions to DC-7 or to a cyclone. When boring polystyrene lock blocks the emissions are directed to the cyclone to keep polystyrene material segregated from wood waste collected by DC-7. The collected wood emission materials have beneficial uses if kept free of polystyrene. The control efficiency of the cyclone CYC1, is estimated to be 90% for polystyrene particulate based on engineering judgment. This control efficiency limits the potential to emit PM/PM10 to 1.49 tons/year.

The cyclone, CYC1, is not currently included in the draft FESOP, although use of the lock block boring machine M15 is included. The only change is that cyclone CYC1 will have a lower control efficiency than baghouse DC-7. The emission estimates in Table 1 assume that the lock block boring machine processes only polystyrene blocks at maximum production rates. However, some boring will be done in wood and therefore, the emission estimates in Table 1 are not completely additive to the current facility wide totals. At maximum production rates the boring machine emissions from baghouse DC-7 were estimated to be 0.0887 lbs/hour in the original Title V Operating Permit. Operation of the boring machine at maximum production rates processing only polystyrene blocks represents an increase of 0.253 lbs/hr or 1.10 tons/year. Challenge Door requests that cyclone CYC1 be added to the draft FESOP to accommodate an alternate control scenario for the lock block boring machine.

Response 14

The following revisions have been made to Condition A.2(e) and to the facility description box in Section D.2.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

- (e) One (1) woodworking emission unit, identified as P005, utilizing a baghouse, identified as dust collector DC7 for particulate matter control, consisting of the following:
 - (1) One (1) table saw (M1);
 - (2) One (1) Miter saw (M2);
 - (3) One (1) radial arm saw (M3);
 - (4) One (1) rail machine (M4);
 - (5) One (1) radial arm saw (M5);
 - (6) One (1) Lockstile machine (M6);
 - (7) One (1) Hingestile machine (M7);
 - (8) One (1) bandsaw (M8);
 - (9) One (1) tilting table saw (M9);
 - (10) Three (3) drill presses (M10-M12)

- (11) One (1) planer (M13);
- (12) One (1) beltsander (M14);
- (13) One (1) lock block boring machine (M15);, **controlled by a cyclone, identified as CYC1, when boring polystyrene lock blocks;**
- (14) One (1) stile and rail machine (M16);

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (d) One (1) core burning emission unit, identified as P004, consisting of the following:
 - (1) Two (2) core burn units, identified as Core Burn Unit 1 and Core Burn Unit 2, for processing a maximum of 438 pounds of polystyrene sheet per hour on a daily average, and exhausting to two (2) stacks, identified as E5 and E6;
- (e) One (1) woodworking emission unit, identified as P005, utilizing a baghouse, identified as dust collector DC7 for particulate matter control, consisting of the following:
 - (1) One (1) table saw (M1);
 - (2) One (1) Miter saw (M2);
 - (3) One (1) radial arm saw (M3);
 - (4) One (1) rail machine (M4);
 - (5) One (1) radial arm saw (M5);
 - (6) One (1) Lockstile machine (M6);
 - (7) One (1) Hingstile machine (M7);
 - (8) One (1) bandsaw (M8);
 - (9) One (1) tilting table saw (M9);
 - (10) Three (3) drill presses (M10-M12)
 - (11) One (1) planer (M13);
 - (12) One (1) beltsander (M14);
 - (13) One (1) lock block boring machine (M15); **and, controlled by a cyclone, identified as CYC1, when boring polystyrene lock blocks;**
 - (14) One (1) stile and rail machine (M16).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Comment 15

Emission Unit P005: Woodworking

At the time of the original Title V Permit application, the facility was not manufacturing wooden doors. However, the facility now produces doors consisting of a wooden framework covered with wood fiber door skins. To trim the doors to a finished size of 36" x 80" the facility utilizes a new trim saw referred to as the Alterna skin sizer (M17). Emissions of sawdust from the trim saw are controlled by the existing woodworking baghouse, DC-7. The baghouse, DC-7, is included in the draft FESOP for controlling particulate emissions from emission unit P005.

Emissions from trim saw operations are estimated to be 1 ton/year under the maximum operating scenario. Challenge Door requests that the trim saw be added to the P005 emission unit in the final FESOP.

Response 15

The one (1) Alterna skin sizer has been added to Condition A.2(e) and to the facility description box in Section D.2.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

- (e) One (1) woodworking emission unit, identified as P005, utilizing a baghouse, identified as dust collector DC7 for particulate matter control, consisting of the following:

- (1) One (1) table saw (M1);
- (2) One (1) Miter saw (M2);
- (3) One (1) radial arm saw (M3);
- (4) One (1) rail machine (M4);
- (5) One (1) radial arm saw (M5);
- (6) One (1) Lockstile machine (M6);
- (7) One (1) Hingestile machine (M7);
- (8) One (1) bandsaw (M8);
- (9) One (1) tilting table saw (M9);
- (10) Three (3) drill presses (M10-M12)
- (11) One (1) planer (M13);
- (12) One (1) beltsander (M14);
- (13) One (1) lock block boring machine (M15);, **controlled by a cyclone, identified as CYC1, when boring polystyrene lock blocks;**
- (14) One (1) stile and rail machine (M16);
- (15) **One (1) Alterna skin sizer (M17);**

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (d) One (1) core burning emission unit, identified as P004, consisting of the following:
 - (1) Two (2) core burn units, identified as Core Burn Unit 1 and Core Burn Unit 2, for processing a maximum of 438 pounds of polystyrene sheet per hour on a daily average, and exhausting to two (2) stacks, identified as E5 and E6;
- (e) One (1) woodworking emission unit, identified as P005, utilizing a baghouse, identified as dust collector DC7 for particulate matter control, consisting of the following:
 - (1) One (1) table saw (M1);
 - (2) One (1) Miter saw (M2);
 - (3) One (1) radial arm saw (M3);
 - (4) One (1) rail machine (M4);
 - (5) One (1) radial arm saw (M5);
 - (6) One (1) Lockstile machine (M6);
 - (7) One (1) Hingestile machine (M7);
 - (8) One (1) bandsaw (M8);
 - (9) One (1) tilting table saw (M9);
 - (10) Three (3) drill presses (M10-M12)
 - (11) One (1) planer (M13);
 - (12) One (1) beltsander (M14);
 - (13) One (1) lock block boring machine (M15); **and, controlled by a cyclone, identified as CYC1, when boring polystyrene lock blocks;**
 - (14) One (1) stile and rail machine (M16); **and**
 - (15) **One (1) Alterna skin sizer (M17).**

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

On December 19, 2001, Chad Darby, Senior Engineer at Secor International Incorporated (consultant for Challenge Door of Indiana) submitted comments on behalf of Challenge Door of Indiana on the proposed FESOP. The summary of the comments and corresponding responses are as follows (bolded language has been added and language with a line through it has been deleted):

The revisions are comprehensive (include changes made till Comment 15).

Comment 16

A.2(b) Language has been changed to clarify that Challenge Door may use a variety of solvent based cleaning solutions, although currently Challenge Door uses isopropyl alcohol to wipe doors.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

- (b) One (1) emission unit, identified as P002, utilizing ~~isopropyl alcohol~~ **a solvent based cleaning solution** to hand wipe a maximum of 175 door per hour and exhausting to general ventilation;

Response 16

The following changes have been made to Condition A.2(b).

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

- (b) One (1) emission unit, identified as P002, utilizing ~~isopropyl alcohol~~ **a solvent based cleaning solution** to hand wipe a maximum of 175 door per hour and exhausting to general ventilation;

Comment 17

- A.2(c)(1) Language has been added to clarify that solvent is used for cleaning rollers that apply adhesive.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

- (c) One (1) roll coating emission unit, identified as P003, consisting of the following:
- (1) Two (2) roll coating operations, identified as Adhesive Roll Coater 1 and Adhesive Roll Coater 2, coating a maximum of 175 doors per hour on a daily average, and exhausting to two (2) stacks, identified as E3 and E4; **utilizing solvent for roller cleaning**;

Response 17

The following changes have been made to Condition A.2(c).

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

- (c) One (1) roll coating emission unit, identified as P003, consisting of the following:
- (1) Two (2) roll coating operations, identified as Adhesive Roll Coater 1 and Adhesive Roll Coater 2, coating a maximum of 175 doors per hour on a daily average, and exhausting to two (2) stacks, identified as E3 and E4, **utilizing solvent for roller cleaning**;

Comment 18

A.2.(e) Language has been stricken for several devices. These devices do not vent to atmosphere or a control device. Particulate generated from occasional use is picked up manually by housekeeping.

- A.2(e)(13) Language has been added to clarify that the cyclone, CYC1, used during lock block boring of polystyrene does not vent to the baghouse, DC7, as implied by the introductory statement of A.2(e). CYC1 vents to atmosphere.

- A.2(e)(15) This unit should be named the "Alterna door sizer" instead of the "Alterna skin" sizer since the unit trims completed doors.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

- (e) One (1) woodworking emission unit, identified as P005, utilizing a baghouse, identified as dust collector DC7 for particulate matter control, consisting of the following:

- (1) One (1) table saw (M1);
- (2) One (1) Miter saw (M2);
- ~~(3) One (1) radial arm saw (M3);~~
- (4) One (1) rail machine (M4);
- ~~(5) One (1) radial arm saw (M5);~~
- (6) One (1) Lockstile machine (M6);
- (7) One (1) Hingestile machine (M7);
- ~~(8) One (1) bandsaw (M8);~~
- (9) One (1) tilting table saw (M9);
- ~~(10) Three (3) drill presses (M10-M12)~~
- (11) One (1) planer (M13);
- (12) One (1) beltsander (M14);
- (13) One (1) lock block boring machine (M15), controlled by **baghouse DC7 when boring wood materials and controlled by** a cyclone, identified as CYC1, **which vents to atmosphere**, when boring polystyrene lock blocks;
- (14) One (1) stile and rail machine (M16);
- (15) One (1) Alterna ~~skin~~ **door** sizer (M17);

Response 18

The following changes have been made to Condition A.2(e).

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

- (e) One (1) woodworking emission unit, identified as P005, utilizing a baghouse, identified as dust collector DC7 for particulate matter control, consisting of the following:

- (1) One (1) table saw (M1);
- (2) One (1) Miter saw (M2);
- ~~(3) One (1) radial arm saw (M3);~~
- ~~(43)~~ One (1) rail machine (M4);
- ~~(5) One (1) radial arm saw (M5);~~
- ~~(64)~~ One (1) Lockstile machine (M6);
- ~~(75)~~ One (1) Hingestile machine (M7);
- ~~(8) One (1) bandsaw (M8);~~
- ~~(96)~~ One (1) tilting table saw (M9);
- ~~(10) Three (3) drill presses (M10-M12)~~
- ~~(117)~~ One (1) planer (M13);
- ~~(128)~~ One (1) beltsander (M14);
- ~~(139)~~ One (1) lock block boring machine (M15), controlled by **baghouse DC7 when boring wood materials and controlled by** a cyclone, identified as CYC1, **which vents to atmosphere**, when boring polystyrene lock blocks;
- ~~(1410)~~ One (1) stile and rail machine (M16);
- ~~(1511)~~ One (1) Alterna ~~skin~~ **door** sizer (M17);

Comment 19

- A.2(f)(1) The pre-expander can, at times, exceed 1,200 lbs of bead processed per hour, but 1,200 lbs of bead is a maximum average rate. Additionally, the maximum average pentane content of the processed bead may be as high as 7%. Only during one source test was the bead content measured at 6.7%.
- A.2(f)(4) This section was expanded to clarify that the pentane collection system will include two enclosures for most of the process, but the emissions collected from pneumatic transfer air used to convey beads to the block molder are ducted directly to a control device. The block molder will not be in an enclosure.
- A.2(f)(5) The burner rating was stricken. The boiler is already existing so the rating of the boiler is unnecessary in the permit. Language has been added to clarify that the boiler may combust a combination of process air and enclosure ventilation air to achieve the highest capture efficiency possible.
- A.2(f)(6) The burner rating was stricken. The burner rating is unnecessary in the permit. The regenerative thermal oxidizer will be tested to determine an emission factor that will be used to demonstrate compliance with an emission limit. As long as the facility emissions remain below the annual emission limit, the capacity of the thermal oxidizer will not be necessary. Language has been added to clarify that the thermal oxidizer may combust a combination of process air and enclosure ventilation air to achieve the highest capture efficiency possible.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

- (f) One (1) expandable polystyrene block molding operation, identified as P006, consisting of the following:
- (1) One (1) batch polystyrene beads pre-expander system, including one (1) pre-expander machine and six (6) steel pipe frame supported polyester storage bags for aging pre-expander beads, capable of processing **a maximum average of** 1,200 pounds per hour of polystyrene beads and a maximum of 15,000 pounds per day of polystyrene beads, containing a maximum **average** of ~~6.7~~ **7%** pentane by weight;
 - (2) One (1) block molding press for molding pre-expanded polystyrene beads to final shapes, utilizing steam to heat the pre-expanded beads;
 - (3) One (1) shaped products drying room;
 - (4) One (1) pentane emissions collection system **consisting of:**

(a) ductwork conveying process emissions and ventilation air from two permanent total enclosures, one enclosure containing the bead aging bags and pre-expander, and one enclosure containing the block aging room; connected to a 4,000 standard cubic feet per minute (scfm) draft blower;

(b) ductwork conveying block molder bead filling pneumatic transfer air;

- (5) One (1) boiler oxidation steam system (BOSS) (thermal oxidizer) with heat recovery devices, ~~equipped with a burner rated at 6.7 million British thermal units per hour~~, using **a mixture of pentane-laden waste air process and ventilation air** and natural gas mixture as combustion fuel; and
- (6) One (1) regenerative thermal oxidizer, ~~equipped with a burner rated at 7.2 million British thermal units per hour~~ using **a mixture of pentane-laden process and ventilation air and** natural gas as combustion fuel.

(The BOSS and the one (1) regenerative thermal oxidizer are parallel with one another, each controlling part of the process air and ventilation air from the permanent total enclosures).

Response 19

The ratings for the boiler oxidation steam system (BOSS) and the regenerative thermal oxidizer will not be deleted from the permit. The following changes have been made to Condition A.2(f).

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

- (f) One (1) expandable polystyrene block molding operation, identified as P006, consisting of the following:
 - (1) One (1) batch polystyrene beads pre-expander system, including one (1) pre-expander machine and six (6) steel pipe frame supported polyester storage bags for aging pre-expander beads, capable of processing **a maximum average of 1,200 pounds per hour** of polystyrene beads and a maximum of 15,000 pounds per day of polystyrene beads, containing a maximum **average of 6.7% 7% pentane by weight**;
 - (2) One (1) block molding press for molding pre-expanded polystyrene beads to final shapes, utilizing steam to heat the pre-expanded beads;
 - (3) One (1) shaped products drying room;
 - (4) One (1) pentane emissions collection system connected to a 4,000 standard cubic feet per minute (scfm) draft blower;

The collection system consists of:

- (a) **Ductwork conveying process emissions and ventilation air from two permanent total enclosures, one enclosure containing the bead aging bags and pre-expander, and one enclosure containing the block aging room;**
- (b) **Ductwork conveying block molder bead filling pneumatic transfer air;**

- (5) One (1) boiler oxidation steam system (BOSS) (thermal oxidizer) with heat recovery devices, equipped with a burner rated at 6.7 million British thermal units per hour, using **a mixture of pentane-laden waste air process and ventilation air** and natural gas mixture as combustion fuel; and
- (6) One (1) regenerative thermal oxidizer, equipped with a burner rated at 7.2 million British thermal units per hour, using **a mixture of pentane-laden process and ventilation air** and natural gas as combustion fuel.

(The BOSS and the one (1) regenerative thermal oxidizer are in parallel with one another, each controlling part of the process air and ventilation air from the permanent total enclosures).

Comment 20

B.15(a) and (c), C.19(a), Table of Contents, and form for reporting Quarterly Deviations:

It appears that the Deviation Report and Semiannual Compliance Monitoring Report have been replaced with a requirement to solely report deviations quarterly, inappropriately named the Quarterly Deviation and Compliance Monitoring Report. The new title is confusing because it would lead the permittee to believe it is to report the compliance status with the Compliance Monitoring Requirements. This is in contradiction with the written terms of Condition B.15, which pertains only to reporting deviations. Condition B.15(a) only requires the submittal of a report concerning deviations. In addition, Condition B.15(b)(1) states that an excursion from compliance monitoring parameters is not a deviation unless tied to an applicable rule or limit. Therefore, not all excursions from compliance monitoring parameters are deviations. It is incorrect and misleading to include compliance monitoring in the title of the required report. It is requested that all such references (noted above) be revised to the "Quarterly Deviation Report".

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

- (a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provision), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

using the attached Quarterly Deviation ~~and Compliance Monitoring~~ Report, or its equivalent. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report.

The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:

- (1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or
- (2) Failure to implement elements of the Preventive Maintenance Plan unless such failure has caused or contributed to a deviation.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred is a deviation.

- (c) Emergencies shall be included in the Quarterly Deviation ~~and Compliance Monitoring~~ Report.

C.19 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

- (a) The source shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation ~~and Compliance Monitoring~~ Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.
- (d) Unless otherwise specified in this permit, any quarterly report required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. The report does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

Form for reporting Quarterly Deviations:

The first sentence of the reporting form has been stricken. Such an affirmation would be consistent with the Annual Compliance Certification, but not a report on deviations.

Response 20

The Quarterly or Semi-Annual Compliance Monitoring Report, is now called the Quarterly Deviation and Compliance Monitoring Report. The form now requires the source to not only report that there were deviations, but to also include the probable cause and the response steps taken. Permittees are no longer required to report deviations in ten days, therefore every Permittee will need to submit this report quarterly. For sources with an applicable requirement which gives an alternate schedule for reporting deviations, those deviations will not need to be reported quarterly, but instead should be reported according to the schedule in the applicable requirement. The first sentence on the Quarterly or Semi-Annual Compliance Monitoring Report will be deleted.

Comment 21

- D.1 Language has been added to the facility description to clarify that solvent is used for cleaning rollers that apply adhesive in emission unit P003. Also, language has been modified to clarify that a variety of solvent-based cleaning solutions may be used to wipe doors in emission unit P002, although currently Challenge Door uses isopropyl alcohol.

SECTION D.1

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (a) One (1) surface coating emission unit, identified as P001, consisting of the following:
 - (1) One (1) surface coating spray booth, identified as Door Edge Paint Booth, utilizing a HVLP spray application system, coating a maximum of 175 door edges per hour, using dry filters for particulate matter control, and exhausting to one (1) stack, identified as E1;
 - (2) One (1) surface coating touch-up spray booth, identified as Door Touch-up Booth, utilizing an air atomized spray application system, coating a maximum of 175 door edges per hour, using dry filters for particulate matter control, and exhausting to one (1) stack, identified as E2;
- (b) One (1) emission unit, identified as P002, utilizing ~~isopropyl alcohol~~ **a solvent based cleaning solution** to hand wipe a maximum of 175 doors per hour and exhausting to general ventilation; ~~and~~
- (c) One (1) roll coating emission unit, identified as P003, consisting of the following:
 - (1) Two (2) roll coating operations, identified as Adhesive Roll Coater 1 and Adhesive Roll Coater 2, coating a maximum of 175 doors per hour on a daily average, and exhausting to two (2) stacks, identified as E3 and E4. **Solvent is used for roller cleaning.**

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Response 21

The following changes have been made to the facility description box in Section D.1.

SECTION D.1

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (a) One (1) surface coating emission unit, identified as P001, consisting of the following:
 - (1) One (1) surface coating spray booth, identified as Door Edge Paint Booth, utilizing a HVLP spray application system, coating a maximum of 175 door edges per hour, using dry filters for particulate matter control, and exhausting to one (1) stack, identified as E1;
 - (2) One (1) surface coating touch-up spray booth, identified as Door Touch-up Booth, utilizing an air atomized spray application system, coating a maximum of 175 door edges per hour, using dry filters for particulate matter control, and exhausting to one (1) stack, identified as E2;
- (b) One (1) emission unit, identified as P002, utilizing ~~isopropyl alcohol~~ **a solvent based cleaning solution** to hand wipe a maximum of 175 doors per hour and exhausting to general ventilation; and
- (c) One (1) roll coating emission unit, identified as P003, consisting of the following:
 - (1) Two (2) roll coating operations, identified as Adhesive Roll Coater 1 and Adhesive Roll Coater 2, coating a maximum of 175 doors per hour on a daily average, and exhausting to two (2) stacks, identified as E3 and E4, **utilizing solvent for roller cleaning**.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Comment 22

- D.1.6(a)(2) There did not appear to be a practical reason for the reference to “dates” of use. A monthly log of total use should suffice.

D.1.6 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.2 and D.1.3, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Conditions D.1.2 and D.1.3.
 - (1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
 - (2) **A monthly log** ~~of the dates~~ of use;
 - (3) The cleanup solvent usage for each month;
 - (4) The total VOC usage for each month; and
 - (5) The weight of VOCs emitted for each compliance period.

- (b) To document compliance with Condition D.1.5, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Response 22

The following changes have been made to Condition D.1.6(a)(2).

D.1.6 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.2 and D.1.3, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Conditions D.1.2 and D.1.3.
 - (1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
 - (2) A **monthly** log ~~of the dates~~ of use;
 - (3) The cleanup solvent usage for each month;
 - (4) The total VOC usage for each month; and
 - (5) The weight of VOCs emitted for each compliance period.
- (b) To document compliance with Condition D.1.5, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Comment 23

- D.2 Several devices have been stricken from the woodworking emission unit. These devices do not vent to atmosphere or a control device. The devices are used only occasionally and particulate generated is collected manually with housekeeping practices.

Language has been added to the process description to clarify that the lock block boring machine is controlled either by a baghouse or a cyclone. The lock block boring machine when boring polystyrene is vented to the cyclone, CYC1, which vents directly to atmosphere. The "Alterna skin sizer" has been changed to "Alterna door sizer" since this unit actually trims completed doors, not just the door skins.

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (d) One (1) core burning emission unit, identified as P004, consisting of the following:
 - (1) Two (2) core burn units, identified as Core Burn Unit 1 and Core Burn Unit 2, for processing a maximum of 438 pounds of polystyrene sheet per hour on a daily average, and exhausting to two (2) stacks, identified as E5 and E6;
- (e) One (1) woodworking emission unit, identified as P005, utilizing a baghouse, identified as dust collector DC7 for particulate matter control, consisting of the following:
 - (1) One (1) table saw (M1);
 - (2) One (1) Miter saw (M2);
 - (3) ~~One (1) radial arm saw (M3);~~
 - (4) One (1) rail machine (M4);
 - (5) ~~One (1) radial arm saw (M5);~~
 - (6) One (1) Lockstile machine (M6);
 - (7) One (1) Hingestile machine (M7);
 - (8) ~~One (1) bandsaw (M8);~~
 - (9) One (1) tilting table saw (M9);
 - (10) ~~Three (3) drill presses (M10-M12)~~
 - (11) One (1) planer (M13);
 - (12) One (1) beltsander (M14);
 - (13) One (1) lock block boring machine (M15), controlled by **baghouse DC7 when boring wood materials and controlled by** a cyclone, identified as CYC1, **which vents to atmosphere**, when boring polystyrene lock blocks;
 - (14) One (1) stile and rail machine (M16); and
 - (15) One (1) Alterna-skin ~~door~~ sizer (M17).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Response 23

The following changes have been made to the facility description box in Section D.2.

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (d) One (1) core burning emission unit, identified as P004, consisting of the following:
 - (1) Two (2) core burn units, identified as Core Burn Unit 1 and Core Burn Unit 2, for processing a maximum of 438 pounds of polystyrene sheet per hour on a daily average, and exhausting to two (2) stacks, identified as E5 and E6;
- (e) One (1) woodworking emission unit, identified as P005, utilizing a baghouse, identified as dust collector DC7 for particulate matter control, consisting of the following:
 - (1) One (1) table saw (M1);
 - (2) One (1) Miter saw (M2);
 - ~~(3) One (1) radial arm saw (M3);~~
 - ~~(43)~~ One (1) rail machine (M4);
 - ~~(5) One (1) radial arm saw (M5);~~
 - ~~(64)~~ One (1) Lockstile machine (M6);
 - ~~(75)~~ One (1) Hingestile machine (M7);
 - ~~(8) One (1) bandsaw (M8);~~
 - ~~(96)~~ One (1) tilting table saw (M9);
 - ~~(10) Three (3) drill presses (M10-M12)~~
 - ~~(117)~~ One (1) planer (M13);
 - ~~(128)~~ One (1) beltsander (M14);
 - ~~(139)~~ One (1) lock block boring machine (M15), controlled by **baghouse DC7 when boring wood materials and controlled by** a cyclone, identified as CYC1, **which vents to atmosphere**, when boring polystyrene lock blocks;
 - ~~(1410)~~ One (1) stile and rail machine (M16); and
 - ~~(1511)~~ One (1) Alterna skin door sizer (M17).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Comment 24

- D.2.4 Language has been changed to allow testing of the core burner anytime within 24 months of permit issuance if desired. This conceivably would allow for testing prior to permit issuance if the permit is delayed a significant period of time, but would also allow testing in the first 18 months after permit issuance, which this condition did not originally allow.

D.2.4 Testing Requirements

~~During the period between 18 and 24 months after issuance of this permit~~ **Within 24 months of permit issuance**, the Permittee shall perform emission testing on the core burning unit (P004) to verify the type and amount of pollutants emitted by this unit, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

Response 24

The following changes have been made to Condition D.2.4.

D.2.4 Testing Requirements

~~During the period between 18 and 24 months after issuance of this permit~~ **Within 24 months of permit issuance**, the Permittee shall perform emission testing on the core burning unit (P004) to verify the type and amount of pollutants emitted by this unit, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

Comment 25

- D.2.7(b)(1)(A) Language changed to clarify that the static pressure reading is a differential between inlet and outlet pressure, but not an inlet differential pressure and outlet differential pressure, which would require 4 pressure readings.
- D.2.7(b)(1)(B) Language has been clarified here to explain the parameter that is being recorded. The facility is being required to verify that the woodworking baghouse is self-cleaning on a regular basis. Weekly observations should record that the baghouse has been observed going through a cleaning cycle.
- D.2.7(b)(2) This requirement has been stricken. The facility switches the lockblock boring machine (M15) ventilation back and forth between the baghouse (DC7 for wood particulate) and the cyclone (CYC1 for polystyrene particulate) depending upon the material being processed. Recordkeeping for the numerous changes would not serve to verify that the control device is operating properly, nor would recordkeeping be used to calculate emissions. Therefore, this recordkeeping step should not be required.

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.2.7 Record Keeping Requirements

- (a) To document compliance with Condition D.2.5, the Permittee shall maintain records of daily visible emission notations of the woodworking process stack exhaust.
- (b) To document compliance with Condition D.2.6, the Permittee shall maintain the following:
- (1) Weekly records of the following operational parameters during normal operation when venting to the atmosphere:
 - (A) ~~Inlet and outlet differential static pressure~~ **across the fabric**; and
 - (B) **Verification of** cleaning cycle operation.
 - (2) ~~Documentation of the dates vents are redirected.~~
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Response 25

The following changes have been made to Condition D.2.7.

D.2.7 Record Keeping Requirements

- (a) To document compliance with Condition D.2.5, the Permittee shall maintain records of daily visible emission notations of the woodworking process stack exhaust.
- (b) To document compliance with Condition D.2.6, the Permittee shall maintain the following:
 - (1) Weekly records of the following operational parameters during normal operation when venting to the atmosphere:
 - (A) ~~Inlet and outlet~~ Differential static pressure **across the fabric**; and
 - (B) **Verification of** ~~C~~ cleaning cycle operation.
 - (2) ~~Documentation of the dates vents are redirected.~~
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Comment 26

- D.3 Facility description has been changed to clarify the details of the process. The heat input ratings of the combustion devices have been removed. The maximum average pentane content of the EPS bead has been changed to reflect a maximum average of 7%. The pentane content of 6.7% was used in the BACT analysis because this value had been confirmed by a source test. However, a slightly higher pentane content may be present in some shipments of polystyrene bead. The comments in this section also reflect that the capture system really has three parts: one enclosure for block aging, one enclosure for bead aging and pre-expansion, and one duct to convey emissions from the block molder during bead filling operations. Note: the block molder will not be captured and controlled during block formation and release because these operations may result in high pressure steam unbalancing the capture system. These operations were considered technically infeasible in the BACT analysis.

SECTION D.3

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (f) One (1) expandable polystyrene block molding operation, identified as P006, consisting of the following:
- (1) One (1) batch polystyrene beads pre-expander system, including one (1) pre-expander machine and six (6) steel pipe frame supported polyester storage bags for aging pre-expander beads, capable of processing **a maximum average of 1,200 pounds per hour of polystyrene beads** and a maximum of 15,000 pounds per day of polystyrene beads, containing **a maximum average of 6.7% 7% pentane by weight**;
 - (2) One (1) block molding press for molding pre-expanded polystyrene beads to final shapes, utilizing steam to heat the pre-expanded beads;
 - (3) One (1) shaped products drying room;
 - (4) One (1) pentane emissions collection system **consisting of ductwork conveying process and ventilation air from two permanent total enclosures, one containing the bead aging bags and pre-expander, and one containing the block aging room; and ductwork conveying process air from the block molder during bead filling operations** connected to a 4,000 standard cubic feet per minute (scfm) draft blower;
 - (5) One (1) boiler oxidation steam system (BOSS) (thermal oxidizer) with heat recovery devices, ~~equipped with a burner rated at 6.7 million British thermal units per hour~~, using **a mixture of pentane-laden waste air process and ventilation air** and natural gas mixture as combustion fuel; and
 - (6) One (1) regenerative thermal oxidizer, ~~equipped with a burner rated at 7.2 million British thermal units per hour~~ using **a mixture of pentane-laden process and ventilation air and** natural gas as combustion fuel.
- (The BOSS and the one (1) regenerative thermal oxidizer are in parallel with one another).*
- (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Response 26

The following changes have been made to the facility description box in Section D.3.

SECTION D.3

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (f) One (1) expandable polystyrene block molding operation, identified as P006, consisting of the following:
- (1) One (1) batch polystyrene beads pre-expander system, including one (1) pre-expander machine and six (6) steel pipe frame supported polyester storage bags for aging pre-expander beads, capable of processing **a maximum average of 1,200 pounds per hour of polystyrene beads** and a maximum of 15,000 pounds per day of polystyrene beads, containing a maximum **average of 6.7% 7% pentane by weight**;
 - (2) One (1) block molding press for molding pre-expanded polystyrene beads to final shapes, utilizing steam to heat the pre-expanded beads;
 - (3) One (1) shaped products drying room;
 - (4) One (1) pentane emissions collection system connected to a 4,000 standard cubic feet per minute (scfm) draft blower;
The collection system consists of:
 - (a) **Ductwork conveying process emissions and ventilation air from two permanent total enclosures, one enclosure containing the bead aging bags and pre-expander, and one enclosure containing the block aging room;**
 - (b) **Ductwork conveying block molder bead filling pneumatic transfer air;**
 - (5) One (1) boiler oxidation steam system (BOSS) (thermal oxidizer) with heat recovery devices for controlling VOC emissions, equipped with a burner rated at 6.7 million British thermal units per hour, using **a mixture of pentane-laden waste air process and ventilation air** and natural gas ~~mixture~~ as combustion fuel; and
 - (6) One (1) regenerative thermal oxidizer, equipped with a burner rated at 7.2 million British thermal units per hour, using **a mixture of pentane-laden process and ventilation air** and natural gas as combustion fuel.

(The BOSS and the one (1) regenerative thermal oxidizer are in parallel with one another, each controlling part of the process air and ventilation air from the permanent total enclosures).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Comment 27

- D.3.1(a) There will be two total enclosures that be designed to the criteria of EPA Method 204. The exact as-built flowrate of the blower that supplies combustion air to the regenerative thermal oxidizer is not yet known, although 4,000 scfm is the estimate from one vendor that supplied information for the BACT analysis. However, this flowrate should be irrelevant as long as the blower has the capacity in conjunction with the BOSS blower to ensure that the total enclosures meet EPA Method 204 which requires inward flow through all enclosure openings with 200 feet per minute face velocity. There is not a blower for each enclosure as this section implies, but rather a combustion blower for each control device. The control devices may each control a combination of enclosure ventilation air and process exhaust in the final design.

The most important part of this section is the requirement that the enclosures meet the permanent total enclosure design criteria of EPA Method 204. As stated in the method (see Attachment 3) a capture efficiency of 100% can be assumed as long as the enclosures meet the design criteria in the method. The proposed permit language also states that the duct conveying emissions from the block molder during bead filling will be assumed to capture 100% of the emissions as long as the duct is under negative-pressure. This duct is hard-piped directly to the block molder and is only by-passed during the block molder formation and release operations.

D.3.1(b) In lieu of a destruction efficiency requirement, Challenge Door proposes to meet an emission limit of 3.83 tons/year from the BOSS and thermal oxidizer stacks combined. This would be a combined limit and is calculated based on the following assumptions:

Bead may have a maximum average of 7% by wt. pentane content
All pentane in the bead may be emitted in the process
Bead usage is limited to 15,000 lbs of bead per day
BOSS and thermal oxidizer will have a minimum average control efficiency of 98%. It should be noted that the original construction permit for the BOSS required 98% destruction efficiency. The boiler has demonstrated 99.6% during one source test (which was used in the BACT analysis for ranking and cost estimation purposes), but has not been modified in any way that suggests it will be able to exceed 98% on a routine basis. The regenerative thermal oxidizer that will be installed uses the same principle of operation, combustion of organic emissions. As a result, the thermal oxidizer may exceed 98% efficiency at times, but 98% is expected to be the maximum average destruction efficiency.

Challenge Door proposes to demonstrate compliance with the permit limit by using an emission source test of the BOSS and thermal oxidizer to determine an emission factor for each (lbs. of VOC emitted per ton of beads processed). The emission factor will be multiplied by the bead usage each month to determine total emissions of VOC from the EPS for the month. Compliance with the annual emission limit of 3.83 tons/year will be demonstrated at the end of each month on a rolling 12-month basis.

Challenge Door proposes the permit limit in lieu of a destruction efficiency requirement for the following reasons:

- 1) The permit limit establishes an emission cap for the process that will provide the agency with assurance that the facility has a minimal impact to the airshed.
- 2) A destruction efficiency (%) establishes a requirement that could mean an immediate enforcement action against the facility if even one source test failed to demonstrate the required efficiency. However, a permit limit (tons/year) demonstrated by use of an emission factor and bead usage recordkeeping means that if the facility measures a higher-than-expected emission factor, the facility can still demonstrate compliance with the permit condition by reducing bead usage.

- 3) The destruction efficiency of a thermal oxidizer can vary significantly with changes in the inlet concentration. Some agencies have recognized this and included a sliding scale for destruction efficiency based on inlet concentration. For instance, the Bay Area Air Quality Management District in California requires 98.5% destruction efficiency for thermal oxidizers when inlet concentrations exceed 2,000 ppm, but only 90% destruction efficiency when inlet concentrations fall to 20 ppm. Since the thermal oxidizer will operate during the day when the EPS process is running and at night when only the aging beads and block will generate emissions, the inlet concentration to the RTO may vary through a wide range. Rather than having a sliding scale for destruction efficiency performance, a weighted average emission factor would be used to demonstrate compliance based on source testing. See comments for D.3.3(a)(3)

D.3.1(c) Language was added for this section to indicate that the limit of 15,000 lbs refers to bead and not VOC emissions, for which the potential to emit is limited to 100 tons per 12 consecutive month period.

D.3.1 New Facilities, General Reduction Requirements [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), the source shall install and maintain the Best Available Control Technology (BACT) for the one (1) expandable polystyrene block molding operation, identified as P006, as described below.

(a) ***EPS emission capture system consisting of:***

Two (2) permanent total enclosures, each ~~equipped with 4,000 scfm draft blowers~~ ***meeting the design criteria of EPA Method 204***, to capture VOC (as pentane) emitted from the EPS operation at:

- (1) The pre-expander and bead aging bags, and
- (2) The block mold aging room.

One (1) duct conveying emissions from the block molder during bead filling operations to either the BOSS or regenerative thermal oxidizer

~~The expandable polystyrene (EPS) capture system shall achieve a minimum eighty-five percent (85%) capture efficiency and shall not include VOC (as pentane) emitted during release of the block mold.~~ ***A capture efficiency of 100% for pre-expansion, bead aging, and block aging operations shall be assumed if the permanent total enclosures meet the design criteria of EPA Method 204. A capture efficiency of 100% for the block molder during bead filling shall be assumed if ductwork under negative pressure is used to convey VOC directly to a control device. Emissions of VOC from block mold formation and block release shall not be captured.***

If either of the permanent total enclosures cannot meet the requirements of EPA Method 204, the Commissioner will be provided with detailed justification writing within 45 days of completion of the enclosure verification testing required in D.3.3. A capture efficiency test will be conducted for any processes located within the enclosure and the tested capture efficiency (with reasonable allowances for process variability and test method uncertainty) will be established as the emission limit or standard for those processes.

- (b) EPS capture system exhaust shall be ducted to one (1) regenerative thermal oxidizer equipped with a 7.2 MMBtu/hr burner, and one (1) BOSS, equipped with a 6.7 MMBtu/hr burner, each with a minimum ninety-nine and six tenths percent (99.6%) destruction efficiency. **Combined emissions of VOC from the two control devices shall not exceed 3.83 tons per 12 consecutive month period.**
- (c) Polystyrene bead aging at the EPS process shall be limited to 15,000 pounds **of bead** per day. Compliance with the requirements of this condition shall limit the potential to emit of the source to less than 100 tons per 12 consecutive month period. Therefore, the requirements of 326 IAC 2-7 (Part 70) shall not apply.

Response 27

The following changes have been made to Condition D.3.1.

D.3.1 New Facilities, General Reduction Requirements [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), the source shall install and maintain the Best Available Control Technology (BACT) for the one (1) expandable polystyrene block molding operation, identified as P006, as described below.

(a) EPS emission capture system consisting of:

- ~~(a)~~ Two (2) permanent total enclosures, each equipped with 4,000 scfm draft blowers, to capture VOC (as pentane) emitted from the EPS operation at:
 - (1) The pre-expander and bead aging bags, and
 - (2) The block mold aging room.

The expandable polystyrene (EPS) capture system shall achieve a **one hundred (100) percent capture efficiency** ~~minimum eighty-five percent (85%) capture efficiency and shall not include VOC (as pentane) emitted during release of the block mold.~~

One (1) duct conveying emission from the block molder during bead filling operations to either the BOSS or regenerative thermal oxidizer.

- (b) EPS capture system exhaust shall be ducted to one (1) regenerative thermal oxidizer equipped with a 7.2 MMBtu/hr burner, and one (1) BOSS equipped with a 6.7 MMBtu/hr burner, each with a minimum ninety-nine and six tenths percent (99.6%) ~~ninety-eight percent (98%)~~ destruction efficiency. **Combined emissions of VOC from the two control devices shall not exceed 3.83 tons per twelve consecutive month period.**

- (c) Polystyrene bead aging at the EPS process shall be limited to 15,000 pounds **of bead** per day. Compliance with the requirements of this condition shall limit the potential to emit of the source to less than 100 tons per 12 consecutive month period. Therefore, the requirements of 326 IAC 2-7 (Part 70) shall not apply.

Comment 28

D3.3(a) The condition to conduct compliance testing within 45 days was stricken due to the fact that this is a compliance schedule requirement and redundant. This language appears in Section 3.6 Compliance Schedule.

D3.3(a)(1) The requirement for 85% capture efficiency has been stricken and replaced with a requirement for Challenge Door to demonstrate that the facility permanent total enclosures around the EPS process meet EPA Method 204. If the facility can demonstrate these requirements then the facility can assume 100% capture of emissions that are technically feasible to capture and control. As stated in the BACT analysis, approximately 15.1% of the emissions are generated in block mold pressing and release, which are not technically feasible to control. Therefore, 100% capture would equate to 84.9% of total pentane emissions. The facility prefers to demonstrate this capture efficiency per EPA Method 204, as allowed by the method, in order to avoid costly source testing and the possibility that normal sampling errors of $\pm 2-3\%$ in the testing methods could falsely signify noncompliance.

The duct from the block molder, which will be used to collect emissions from the block molder during bead filling operations, is hard-piped from the block molder to the BOSS currently. Since this is a closed system, Challenge Door will confirm that the duct is under negative pressure, which will indicate that 100% of the emissions from this source are controlled.

If the facility is unable to demonstrate compliance with the design criteria of EPA Method 204 for the permanent total enclosures, which is unlikely, the facility proposes to measure the actual capture efficiency.

To ensure that the enclosures maintain the design criteria of EPA Method 204, it will be important to regularly measure some airflow parameter from the enclosures that indicates ongoing performance. The draft FESOP suggested fan amperage or duct pressure. While these give some indication that performance has remained adequate, both are dependent upon a number of variables including temperature, moisture, ambient pressure, etc. Alternate parameters include measuring the differential pressure between the inside and outside of the enclosure. Per EPA Method 204, a differential pressure of 0.007 in. H₂O, corresponds to a face velocity of 200 feet per minute through the openings in the enclosure (which is the key performance criteria for EPA Method 204). Therefore, Challenge Door may propose this technique prior to the compliance test, or other approvable air flow parameter measurement to demonstrate ongoing performance.

- D.3.3(a)(2) The burner capacity of the boiler was stricken since the capacity will be irrelevant if the boiler meets the permit conditions of this section. Additionally stricken was the boiler destruction efficiency (99.6%). The boiler has only been successfully tested once to demonstrate 99.6% and may not perform at that level continuously. The original construction permit required only 98% efficiency. Challenge Door proposes a permit limit of 3.83 tons of emissions from the boiler and thermal oxidizer per year in lieu of a destruction efficiency. This is explained in previous comments for Section D.3.1(b).

To demonstrate ongoing compliance with a permit limit of 3.83 tons of VOC emitted/year from the boiler and thermal oxidizer, Challenge Door proposes development of an emission factor based on source testing to be used in conjunction with bead usage. A test of the outlets of the control devices, while recording bead usage will result in an emission factor of :

lbs. of VOC emitted/ton of bead used

By recording the bead usage on a rolling 12-month average and multiplying by the VOC emission factor, a VOC emission rate can be determined. To indicate that the control devices have maintained the performance established in the emission factor verification testing, the temperature of the combustion chamber in each control device will be continuously monitored.

- D.3.3(a)(3) The burner capacity was stricken since it will not be used to demonstrate compliance. Emission testing will ultimately determine if the thermal oxidizer is adequate to ensure acceptable performance.

The destruction efficiency requirement of 99.2% was stricken. This efficiency was a weighted average in the BACT analysis and represents a maximum weighted average performance for the BOSS and thermal oxidizer assuming the BOSS is capable of 99.6% and the thermal oxidizer is capable of 99% destruction efficiency. These efficiencies were used for ranking purposes and for determining conservative annualized cost determinations to evaluate economic feasibility. These efficiencies do not represent the minimum performance expected for the devices. For instance, the BOSS value (99.6%) was based on one source test, but minimum performance is estimated to be only 98% even with modest to high inlet loading. Similarly, the thermal oxidizer minimum performance is estimated to be 98% when inlet concentrations are sufficiently high. However, during the 2nd and 3rd shift the thermal oxidizer will control only the bead and block aging emissions, which may result in a significantly reduced VOC inlet concentration. As a result, performance of the oxidizer may be as low as 90% (according to the prescriptive BACT determination of the Bay Area Air Quality District in California). As a result, Challenge Door proposes to develop an emission factor for each device and assess compliance against an emission limit based on polystyrene bead usage.

The emission factor developed for the thermal oxidizer will require a minimum of two emission factor verification tests. The thermal oxidizer will be operated during the day when the pre-expander and block molder are operating and will be operated at night when emissions are only released from bead aging and block aging processes. The language added to this condition explains how the overall emission factor will be developed.

Ongoing compliance will be determined by two methods:

- (1) Continuous monitoring of the oxidizer combustion chamber temperature
- (2) Recordkeeping of bead usage and use of the emission factor to demonstrate compliance with the permit limit on a rolling 12-month average to be determined at the end of each month.

D.3.3(b) Language has been added to this section to indicate how subsequent required emission testing will be used to determine the most recent emission factor for compliance determination purposes.

D.3.3 Testing Requirements [326 IAC 3-6] [326 IAC 2-8-5(a)(1),(4)] [326 IAC 2-1.1-11]

(a) The Permittee shall perform initial compliance testing on the VOC emissions control system within forty-five (45) days after installation and achieving maximum facility production rate, but no later than 180 days after initial start-up. The following shall be conducted in order to demonstrate compliance with Condition D.3.1:

- (1) ~~The Permittee shall demonstrate compliance with the minimum control system efficiency of 85% VOC emission capture using methods specified in 40 CFR 51, Appendix M, Method 204, or other methods as specified by the Commissioner.~~
verify that the permanent total enclosures meet EPA Method 204 design criteria and that the ductwork capturing emissions from block molder bead filling operations is under negative pressure and conveyed directly to a control device. Testing shall be conducted in accordance with Section C - Performance Testing.

If either of the permanent total enclosures fail to meet the EPA Method 204 design criteria, then capture efficiency shall be determined for the processes in that enclosure with testing conducted using methods specified in 40 CFR 51, Appendix M, Method 204, or other methods as specified by the Commissioner. The capture efficiency determined shall (with reasonable allowances for process variability and test method uncertainty) become the permitted limit or standard for those processes.

The air flow parameter (duct pressure, fan amperage, enclosure differential pressure, or other approved air flow parameter) measured during enclosure capture verification testing shall be recorded.

- (2) The Permittee shall perform VOC testing on the ~~6.7 MM Btu/hr~~ BOSS **exhaust during operation of the pre-expander and block molder**, utilizing methods as approved by the Commissioner, to determine **an emission factor (lbs. VOC emitted per ton of polystyrene beads processed through the pre-expander).** ~~the minimum operating temperature that will achieve 99.6% destruction efficiency for this oxidizer.~~ **The emission factor used for compliance demonstration will be determined from the following equation:**

$$EF = \frac{\text{Mass of VOCs emitted during testing (lbs)}}{\text{Mass of beads pre\&expanded during testing (tons)}}$$

The average operating temperature measured during emission factor verification testing shall be determined. Testing shall be conducted in accordance with Section C - Performance Testing.

- (3) The Permittee shall perform VOC testing on the 7.2 MMBtu/hr regenerative thermal oxidizer **outlet**, utilizing methods as approved by the Commissioner, to determine **an emission factor (lbs. VOC emitted per ton of polystyrene beads processed through the pre-expander)**. the minimum operating temperature that will achieve 99.2% destruction efficiency for this oxidizer. **The emission factor for the thermal oxidizer will be determined from a weighted average of two emission factor verification tests conducted during the same 24-hour bead expansion and aging cycle:**
- (a) **The permittee shall perform VOC testing on the regenerative thermal oxidizer exhaust during operation of the pre-expander and block molder.**
- (b) **The permittee shall perform VOC testing on the regenerative thermal oxidizer exhaust during the bead and block aging period when pre-expansion and block molding are not conducted.**

The weighted average emission factor used for compliance demonstration will be determined from the following equation:

$$EF = \frac{VOC_a \times T_a + VOC_b \times T_b}{\text{Tons of beads processed and aged in 24 hours}}$$

Where:

VOC_a = VOC emission rate during pre-expansion and molding operations (lb/hour)
 VOC_b = VOC emission rate during pre-expander and molder shutdown (lbs/hour)
 T_a = Number of hours spent running pre-expander and block molder
 T_b = Number of hours pre-expander and block molder shutdown

The average operating temperature measured during emission factor verification testing shall be determined. Testing shall be conducted in accordance with Section C - Performance Testing.

- (b) The tests required in (a)(2) and (a)(3) shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. **An average emission factor shall be determined for each control device (BOSS and regenerative thermal oxidizer) following the most recent emission factor verification test. The average emission factor for each control device used to demonstrate compliance with D.3.1(b) shall be an average of the emission factors determined from all previous emission factor verification tests. Newly developed average emission factors following testing will be used to determine compliance with D.3.1(b) in the first full month following submittal of the test report.**

Response 28

The following changes have been made to Condition D.3.3.

D.3.3 Testing Requirements [326 IAC 3-6] [326 IAC 2-8-5(a)(1),(4)] [326 IAC 2-1.1-11]

- (a) The Permittee shall perform initial compliance testing on the VOC emissions control system within forty-five (45) days after installation and achieving maximum facility production rate, but no later than 180 days after initial start-up. The following shall be conducted in order to demonstrate compliance with Condition D.3.1:

- (1) The Permittee shall demonstrate compliance with the minimum control system efficiency of 85% VOC emission capture for the two permanent total enclosures using methods specified in 40 CFR 51, Appendix M, Method 204, or other methods as specified by the Commissioner. Testing shall be conducted in accordance with Section C - Performance Testing.

The enclosure differential pressure measured during enclosure capture verification testing shall be recorded.

- (2) The Permittee shall perform VOC testing on the 6.7 MMBtu/hr BOSS exhaust during operation of the pre-expander and block molder, utilizing methods as approved by the Commissioner, to determine an emission factor (units in pounds of VOC emitted per ton of polystyrene beads processed through the pre-expander). the minimum operating temperature that will achieve 99.6% 98% destruction efficiency for this oxidizer. The emission factor used for compliance demonstration will be determined from the following equation:

EF = Mass of VOC emitted during testing (lbs)/Mass of beads pre-expanded during testing (tons)

The average operating temperature measured during emission factor verification testing shall be determined. Testing shall be conducted in accordance with Section C - Performance Testing.

- (3) The Permittee shall perform VOC testing on the 7.2 MMBtu/hr regenerative thermal oxidizer outlet, utilizing methods as approved by the Commissioner, to determine an emission factor (units in pounds of VOC emitted per ton of polystyrene beads processed through the pre-expander). the minimum operating temperature that will achieve 99.2% 98% destruction efficiency for this oxidizer. The emission factor for the thermal oxidizer will be determined from a weighted average of two emission factor verification tests conducted during the same 24 hour bead expansion and aging cycle:

- (a) The Permittee shall perform VOC testing on the regenerative thermal oxidizer exhaust during operation of the pre-expander and block molder.

- (b) The Permittee shall perform VOC testing on the regenerative thermal oxidizer exhaust during the bead and block aging period when pre-expansion and block molding are not conducted.

The weighted average emission factor used for compliance demonstration will be determined from the following equation:

$$EF = \text{VOC}_a \times T_a + \text{VOC}_b \times T_b / \text{tons of beads processed and aged in 24 hours}$$

Where VOC_a = VOC emission rate during pre-expansion and molding operations (lbs/hr)

VOC_b = VOC emission rate during pre-expansion and molding shutdown (lbs/hr)

T_a = number of hours spent running the pre-expander and block molder

T_b = number of hours for the pre-expander and block molder shutdown

The average operating temperature measured during emission factor verification testing shall be determined. Testing shall be conducted in accordance with Section C - Performance Testing.

- (4) The Permittee shall demonstrate that the figure used for the uncontrolled emissions from the release of the block molder is fifteen (15) percent of the potential uncontrolled VOC emissions from the entire operation.

- (b) The tests required in (a)(2) and (a)(3) shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. **An emission factor shall be determined for each control device (BOSS and regenerative thermal oxidizer) following the most recent emission factor verification test.**

Comment 29

D.3.4 Language has been stricken in this condition. The EPS enclosures do not have separate blowers that will run at all times. Instead, the control devices have combustion blowers which will operate at different times. The blower associated with the boiler will operate only when the pre-expander and block molder are operated. The thermal oxidizer blower, which will control the EPS enclosures, will run at all times.

D.3.4 VOC Emissions

In order to comply with Condition D.3.1, the following shall apply to the expandable polystyrene (EPS) block molding operation:

- (a) ~~The two (2) EPS capture systems, with emissions collection draft blowers, shall operate at all times.~~
- (b) The BOSS **and associated emissions collection blower** shall be in operation at all times when the pre-expander system (including bead transportation) ~~and~~ **or** block molding press are in operation.
- (c) The regenerative thermal oxidizer ~~(rated at 7.2 MMBtu/hr)~~ **and associated emissions collection blower** shall be in operation at all times.

Response 29

The following changes have been made to Condition D.3.4.

D.3.4 VOC Emissions

In order to comply with Condition D.3.1, the following shall apply to the expandable polystyrene (EPS) block molding operation:

- ~~(a) The two (2) EPS capture systems, with emissions collection draft blowers, shall operate at all times.~~
- (ba) The BOSS **and associated emissions collection blower** shall be in operation at all times when the pre-expander system (including bead transportation) and block molding press are in operation.
- (eb) The regenerative thermal oxidizer (rated at 7.2 MMBtu/hr) **and associated emissions collection blower** shall be in operation at all times.

Comment 30

D.3.5(a) Destruction efficiency conditions have been stricken. Compliance monitoring is proposed for the combustion chamber temperature and an air flow parameter that verifies the permanent total enclosures are functioning properly. To be consistent with Challenge Door's proposed compliance determination technique, the destruction efficiency will not be used. In lieu of destruction efficiency, Challenge Door will conduct an emission factor verification test for the boiler and maintain records of bead usage.

D.3.5(b) Destruction efficiency conditions have been stricken. Compliance monitoring is proposed for the combustion chamber temperature and an air flow parameter that verifies the permanent total enclosures are functioning properly. To be consistent with Challenge Door's proposed compliance determination technique, the destruction efficiency will not be used. In lieu of destruction efficiency, Challenge Door will conduct an emission factor verification test for the regenerative thermal oxidizer and maintain records of bead usage.

D.3.5 Volatile Organic Compound Control

- (a) When operating the one (1) expandable polystyrene block molding operation, the BOSS shall maintain a minimum operating temperature of 1,400°F or ~~a~~ **the average temperature measured during the emission factor verification tests used to develop the average VOC emission factor in accordance with D.3.3(b).** . ~~determined in the most recent compliance stack tests to maintain at least 99.6% destruction efficiency.~~ **The air flow parameter (fan amperage, duct pressure, enclosure differential pressure, or other approved air flow parameter) shall be maintained at or above the values determined in the capture verification testing as specified in D.3.3(a)(1).** The temperature of the burner of the ~~thermal oxidizer boiler~~ shall be continuously monitored and recorded whenever any of the facilities (block molding press ~~and or~~ the bead expander) are in operation. Compliance with this condition shall deem 326 IAC 8-1-6 satisfied.

- (b) When operating the one (1) expandable polystyrene block molding operation, the ~~7-2 MMBtu/hr~~ regenerative thermal oxidizer shall maintain a minimum operating temperature of 1,450°F or ~~a~~ **the average temperature measured during the emission factor verification tests used to develop the average VOC emission factor in accordance with D.3.3(b).** determined in the most recent compliance stack tests to maintain at least 99.2% destruction efficiency. **The air flow parameter (fan amperage, duct pressure, enclosure differential pressure, or other approved air flow parameter) shall be maintained at or above the values determined in the capture verification testing as specified in D.3.3(a)(1).** The temperature of the burner of the regenerative thermal oxidizer shall be continuously monitored and recorded whenever any of the facilities are in operation. Compliance with this condition shall deem 326 IAC 8-1-6 satisfied.

Response 30

The following changes have been made to Condition D.3.5.

D.3.5 Volatile Organic Compound Control

- (a) When operating the one (1) expandable polystyrene block molding operation, the BOSS shall maintain a minimum operating temperature of 1,400°F or **the average temperature measured during the emission factor verification tests used to develop the average VOC emission factor in accordance with D.3.3(b)** ~~a~~ temperature, fan amperage and duct velocity determined in the most recent compliance stack tests to maintain at least 99.6% ~~98%~~ destruction efficiency. **The enclosure differential pressure shall be maintained at or above the values determined in the capture verification testing as specified in D.3.3(a)(1).** The temperature of the burner of the ~~thermal oxidizer boiler~~ shall be continuously monitored and recorded whenever any of the facilities (block molding press and the bead expander) are in operation. Compliance with this condition shall deem 326 IAC 8-1-6 satisfied.
- (b) When operating the one (1) expandable polystyrene block molding operation, the ~~7-2 MMBtu/hr~~ regenerative thermal oxidizer shall maintain a minimum operating temperature of 1,450°F or ~~a~~ **the average temperature measured during the emission factor verification tests used to develop the average VOC emission factor in accordance with D.3.3(b),** fan amperage and duct velocity determined in the most recent compliance stack tests to maintain at least 99.2% ~~98%~~ destruction efficiency. **The enclosure differential pressure shall be maintained at or above the values determined in the capture verification testing as specified in D.3.3(a)(1).** The temperature of the burner of the regenerative thermal oxidizer shall be continuously monitored and recorded whenever any of the facilities **(block molding press or the bead expander)** are in operation. Compliance with this condition shall deem 326 IAC 8-1-6 satisfied.

Comment 31

D.3.6(a) A revision to the compliance schedule has been made. To be consistent with the compliance schedule submitted to IDEM's enforcement division, 9 months are needed from issuance of the permit to complete installation. The compliance schedule submitted to enforcement also allows 45 day beyond installation to complete initial emission testing. References to air flow rates and burner capacity have been stricken since these are unnecessary as long as the installed system meets the permit conditions.

D.3.6(b) and (c) Language has been added to clarify the compliance schedule for testing enclosures as opposed to control devices.

D.3.6 Compliance Schedule

- (a) The source has ~~six (6)~~ **nine (9)** months from the date of issuance of this permit to install the ~~4,000 scfm~~ regenerative thermal oxidizer (~~rated at 7.2 MMBtu/hr~~) and the two permanent total enclosures to enclose the EPS system.
- (b) Within forty five (45) days of installing the ~~4,000 scfm~~ regenerative thermal oxidizer and the two permanent total enclosures to enclose the EPS system, **and achieving maximum facility production rate, but no later than 180 days after initial startup, the source shall verify that the enclosures meet the design criteria of EPA Method 204 and that the ductwork from the block molder during bead filling is under negative pressure.** ~~the source shall perform initial VOC testing as specified in Condition D.3.3(a) to determine the capture and destruction efficiencies of the control system.~~
- (c) **Within forty five (45) days of installing the regenerative thermal oxidizer and the two permanent total enclosures and achieving maximum facility production rate, but no later than 180 days after initial startup, the source shall conduct initial VOC testing as specified in Condition D.3.3(a) to determine emission factors for the BOSS and thermal oxidizer.**

Response 31

IDEM, OAQ and the Office of Enforcement have concluded that six months is ample time to install the thermal oxidizer and the total enclosures. The following changes have been made to Condition D.3.6.

D.3.6 Compliance Schedule

- (a) The source has ~~six (6)~~ **six (6)** months from the date of issuance of this permit to install the 4,000 scfm regenerative thermal oxidizer (rated at 7.2 MMBtu/hr) and the two permanent total enclosures to enclose the EPS system.
- (b) Within forty five (45) days of installing the 4,000 scfm regenerative thermal oxidizer and the two permanent total enclosures to enclose the EPS system, the source shall perform initial VOC testing as specified in Condition D.3.3(a) ~~to determine the capture and destruction efficiencies of the control system.~~

Comment 32

- D.3.7 Language has been added to allow compliance monitoring of air flow parameters other than duct pressure and fan amperage. EPA Method 204 allows for verification of permanent total enclosure performance using the enclosure differential pressure. A differential pressure of 0.007 in. H₂O represents 200 feet per minute face velocity at enclosure openings. In SECOR's experience this is a more accurate way of verifying the performance of an enclosure than the duct pressure or fan amperage.
- D.3.7 Parametric monitoring
-
- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the BOSS and the one (1) regenerative thermal oxidizer for measuring operating temperature. The output of this system shall be recorded, and that temperature shall be greater than 1,400°F for the BOSS and 1,450°F for the regenerative thermal oxidizer or a temperature greater than or equal to the temperature used to **determine the emission factor for each device** ~~demonstrate compliance during the most recent compliance stack test.~~
- (b) The **air flow parameter** (duct pressure, or fan amperage, **enclosure differential pressure, or other approved air flow parameter**) shall be observed at least once per week when the BOSS and the one (1) regenerative thermal oxidizer is in operation. This pressure or amperage shall be maintained as established in ~~the most recent compliance stack test~~ **the capture verification testing in accordance with D.3.3(a)(1) or at a value that represents a higher flowrate.**
- (c) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the reading is outside the above mentioned range for any one reading. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

Response 32

The following changes have been made to Condition D.3.7.

D.3.7 Parametric monitoring

-
- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the BOSS and the one (1) regenerative thermal oxidizer for measuring operating temperature. The output of this system shall be recorded, and that temperature shall be greater than 1400 F for the BOSS and 1450 F for the regenerative thermal oxidizer or a temperature greater than or equal to the temperature used to ~~determine demonstrate compliance during the most recent compliance~~ **determine the emission factor for each device during the most recent emission factor verification stack test.**

- (b) **The ~~duct pressure or fan amperage~~ enclosure differential pressure shall be observed at least once per week when the BOSS and the one (1) regenerative thermal oxidizer is in operation. This pressure ~~or amperage~~ shall be maintained as established in the ~~most recent compliance stack test~~ capture verification testing in accordance with D.3.3(a)(1) or at a value that represents a higher flowrate.**
- (c) **The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the reading is outside the above mentioned range for any one reading. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.**

Comment 33

- D.3.8(a) Language has been added to clarify that bead usage will be tracked to estimate VOC emissions from the control devices.
 - D.3.8(b) Language has been stricken or added to clarify that destruction efficiency will not be used to determine compliance, but rather an emission factor developed by source testing and bead usage record keeping. Language was also added to clarify that capture efficiency will not be required unless the permanent total enclosures fail to meet the requirements of EPA Method 204.
 - D.3.8(c) Language has been added to include weekly readings of an air flow parameter, preferably the enclosure differential pressure as allowed in EPA Method 204. This parametric monitoring is required in D.3.7, but was overlooked in the record keeping requirements.
- D.3.8 Record Keeping Requirements
- (a) **The Permittee shall maintain daily records of ~~the materials used that contain any VOCs~~ *polystyrene bead usage*. The records shall be complete and sufficient to establish compliance with the ~~VOC~~ *daily bead* usage limits and/or the **control device** VOC emission limits established in Condition D.3.1. The records shall contain, as a minimum, the following information:**
 - (1) The pounds of polystyrene beads used per day.
 - (b) To document compliance with Conditions D.3.4 and D.3.5, the Permittee shall maintain the following records:
 - (1) The following operational parameters of the VOC emission control equipment:
 - (a) ~~Capture Efficiency~~ Data verifying that the permanent total enclosures meet the design criteria of EPA Method 204; or capture efficiency for those processes that are located in an enclosure unable to meet the design criteria or EPA Method 204;

- (b) ~~Destruction (or removal) efficiency;~~ Data used to develop the emission factor for each control device (lbs of VOC (as pentane) emitted per ton of bead processed through the pre-expander);
 - (c) ~~Data used to establish the capture and destruction (or removal) efficiencies; and~~
 - (d) Temperature readings.
- (c) To document compliance with Condition D.3.7, the Permittee shall maintain the following records:
 - (1) The following operational parameters of the VOC emission control equipment:
 - (a) Temperature readings;
 - (b) ***Weekly readings of the approved air flow parameter (fan amperage, duct pressure, enclosure differential pressure, or other approved air flow parameter).***

Response 33

The following changes have been made to Condition D.3.8.

D.3.8 Record Keeping Requirements

- (a) The Permittee shall maintain **daily** records of ~~the materials used that contain any VOCs~~ **polystyrene bead usage**. The records shall be complete and sufficient to establish compliance with the ~~VOC~~ **daily bead** usage limits and/or the **control device** VOC emission limits established in Condition D.3.1. The records shall contain, as a minimum, the following information:
 - (1) The pounds of polystyrene beads used per day.
- (b) To document compliance with Conditions D.3.4 and D.3.5, the Permittee shall maintain the following records:
 - (1) The following operational parameters of the VOC emission control equipment:
 - (a) ~~Capture efficiency;~~ **Data verifying that the permanent total enclosure meet the design criteria of EPA Method 204; or capture efficiency for those processes that are located in an enclosure unable to meet the design criteria of EPA Method 204;**
 - (b) ~~Destruction (or removal) efficiency;~~ **Data used to develop the emission factor for each control device (lbs of VOC [as pentane] emitted per ton of bead processed through the pre-expander);**
 - ~~(c) Data used to establish the capture and destruction (or removal) efficiencies; and~~

- (dc) Temperature readings.
- (c) To document compliance with Condition D.3.7, the Permittee shall maintain the following records:
 - (1) The following operational parameters of the VOC emission control equipment:
 - (a) Temperature readings-;
 - (b) **Weekly readings of the enclosure differential pressure.**

Comment 34

D.3.9 Compliance with the proposed 12-month emission limit of 3.83 tons/year has been added to the required reporting. Challenge Door has proposed a limit requiring recordkeeping and compliance demonstration on a rolling 12-month basis in lieu of a destruction efficiency verified only during a source test.

D.3.9 Reporting Requirements

A quarterly summary of the information to document compliance with the **VOC emission limit in Condition D.3.1(b) and the** daily bead usage limit in Condition D.3.1(c) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the month being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Response 34

The following changes have been made to Condition D.3.7 (now re-numbered D.3.9).

D.3.79 Reporting Requirements

A ~~monthly~~ **quarterly** summary of the information to document compliance with the **VOC emission limit in Condition D.3.1(b) and the** daily bead usage limit in Condition D.3.1(c) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the month being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Upon further review, and in addition to the Comments/Responses presented above, the OAQ has decided to make the following changes to draft FESOP 113-10260-00047:

- 1) Condition A.5 (Prior Permit Conditions) has been replaced with Prior Permit Superseded to implement the intent of the new rule 326 IAC 2-1.1-9.5.

A.5 ~~Prior Permit Conditions~~ **Permits Superseded [326 IAC 2-1.1-9.5]**

- (a) ~~This permit shall be used as the primary document for determining compliance with applicable requirements established by previously issued permits.~~

- ~~(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, including any term or condition from a previously issued construction or operation permit, IDEM, OAM, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued.~~
- (a) **All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either**
- (1) **incorporated as originally stated,**
- (2) **revised, or**
- (3) **deleted**
- by this permit.**
- (b) **All previous registrations and permits are superseded by this permit.**
- 2) The following rule citation has been added to Condition B.8.
- B.8 Duty to Supplement and Provide Information [326 IAC 2-8-3(f)] [326 IAC 2-8-4(5)(E)]
[326 IAC 2-8-5(a)(4)]
- (a) The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to:
- Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015
- The submittal by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).
- (b) The Permittee shall furnish to IDEM, OAM, within a reasonable time, any information that IDEM, OAM, may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAM, copies of records required to be kept by this permit or, for information claimed to be confidential, the Permittee may furnish such records directly to the U.S. EPA along with a claim of confidentiality. [326 IAC 2-8-4(5)(E)]
- (c) The Permittee may include a claim of confidentiality in accordance with 326 IAC 17. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

3) The following change has been made to Condition B.10.

B.10 Compliance with Permit Conditions [326 IAC 2-8-4(5)(A)] [326 IAC 2-8-4(5)(B)]

- (a) The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for:
 - (1) Enforcement action;
 - (2) Permit termination, revocation and reissuance, or modification; and
 - (3) Denial of a permit renewal application.
- (b) It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- (c) An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in ~~condition~~ **Section B**, Emergency Provisions.

4) The following change has been made to Condition B.12.

B.12 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in letter form no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance ~~Data Section~~ **Branch**, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.
- (c) The annual compliance certification report shall include the following:

- (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
- (2) The compliance status;
- (3) Whether compliance was continuous or intermittent;
- (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
- (5) Such other facts as specified in Sections D of this permit, IDEM, OAM, may require to determine the compliance status of the source.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- 5) Condition B.15 has been revised to clarify the facility specific events that would not qualify as a deviation.

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

- (a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provision), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. ~~Deviations that are~~ **A deviation** required to be reported ~~by~~ **pursuant to** an applicable requirement **that exists independent of this permit**, shall be reported according to the schedule stated in the applicable requirement and ~~do not~~ **does** need to be included in this report.

~~The notification by the Permittee~~ **Quarterly Deviation and Compliance Monitoring Report** does require the certification by the ~~"responsible official"~~ **"authorized individual"** as defined by 326 IAC ~~2-7-12-1.1-1(341)~~.

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit ~~or a rule. It does not include:~~

-
- (1) ~~An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or~~
-
- (2) ~~Failure to implement elements of the Preventive Maintenance Plan unless such failure has caused or contributed to a deviation.~~
-
- ~~A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred is a deviation.~~

- (c) Emergencies shall be included in the Quarterly Deviation and Compliance Monitoring Report.

6) The following change has been made to Condition B.18.

B.18 Permit Amendment or Revision [326 IAC 2-8-10] [326 IAC 2-8-11.1]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement **the** administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

7) The following rule citation has been added to Condition B.19.

B.19 Operational Flexibility [326 IAC 2-8-15] [326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at this source that are described in 326 IAC 2-8-15(b) through (d), without prior permit revision, if each of the following conditions is met:

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
- (3) The changes do not result in emissions which exceed the emissions allowable under this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
- (4) The Permittee notifies the:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (5) The Permittee maintains records on-site which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-8-15(b) through (d) and makes such records available, upon reasonable request, to public review.

Such records shall consist of all information required to be submitted to IDEM, OAM, in the notices specified in 326 IAC 2-8-15(b), (c)(1), and (d).

- (a) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-8-15(a) and the following additional conditions:

- (1) A brief description of the change within the source;
- (2) The date on which the change will occur;
- (3) Any change in emissions; and
- (4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted by the Permittee does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) Emission Trades [326 IAC 2-8-15(c)]
The Permittee may trade increases and decreases in emissions in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).
- (d) Alternative Operating Scenarios [326 IAC 2-8-15(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAM or U.S. EPA is required.

- 8) The following change has been made to Condition B.20.

B.20 Permit Revision Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed by **the requirements of 326 IAC 2 and 326 IAC 2-8-11.1.**

9) The following change has been made to Condition C.1.

C.1 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, **except particulate matter (PM)** from the entire source shall be limited to less than one-hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(c) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

10) According to 326 IAC 2-8-6(b), all terms and conditions in a FESOP, including any provisions designed to limit a source's potential to emit, are enforceable by the U.S. EPA; therefore, the following conditions have been revised.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1. ~~326 IAC 4-1-3(a)(2)(A) and (B) are not federally enforceable.~~

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2(3)]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and in 326 IAC 9-1-2. ~~326 IAC 9-1-2 is not federally enforceable.~~

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). ~~326 IAC 6-4-2(4) is not federally enforceable.~~

11) The following change has been made to Condition C.7.

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-4 emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) Indiana Accredited Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement that the inspector be accredited is federally enforceable.

12) The following change has been made to Condition C.10.

C.10 Compliance Monitoring [326 IAC 2-8-4(3)] [326 IAC 2-8-5(a)(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance ~~Data Section~~ **Branch**, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Unless otherwise specified in the approval for the new emissions unit(s), compliance monitoring for new emission units or emission units added through a permit revision shall be implemented when operation begins.

13) The following change has been made to Condition C.11.

C.11 Maintenance of Emission Monitoring Equipment [326 IAC 2-8-4(3)(A)(iii)]

- (a) In the event that a breakdown of the emission monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this permit until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no ~~less~~ often ~~less~~ than once an hour until such time as the continuous monitor is back in operation.

- (b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.
- 14) Language has been added to Condition C.13 for other instrument specifications.
- C.13 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)] [326 IAC 2-8-5(1)]
- (a) Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (b) **Whenever a condition in this permit requires the measurement of a temperature, flow rate, or pH level, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.**
- (c) **The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.**
- 15) Condition C.16 has been revised to re-organize the condition and clarify it's intent. Paragraph (a) states the source is required to prepare a CRP. Paragraph (b) requires the source to implement the CRP. Paragraph (c) defines when the source is excused from taking response steps. Paragraph (d) clarifies that corrective action doesn't automatically excuse a deviation. Paragraph (e) defines the recordkeeping requirements. Paragraph (f) clarifies when monitoring is required. The old paragraph (f) has been removed because IDEM does not have the authority through FESOP to create an exemption from reporting failures.
- C.16 Compliance Monitoring **Response** Plan - Failure to Take Response Steps [326 IAC 2-8-4] [326 IAC 2-8-5]
- (a) ~~The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. The compliance monitoring plan can be either an entirely new document, consist in whole of information contained in other documents, or consist of a combination of new information and information contained in other documents. If the compliance monitoring plan incorporates by reference information contained in other documents, the Permittee shall identify as part of the compliance monitoring plan the documents in which the information is found. The elements of the compliance monitoring plan are:~~
- ~~(1) This condition;~~
- ~~(2) The Compliance Determination Requirements in Section D of this permit;~~
- ~~(3) The Compliance Monitoring Requirements in Section D of this permit;~~

- ~~(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and~~
- ~~(5) A prepare a~~ Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. ~~A~~ CRP's shall be submitted to IDEM, OAM upon request ~~and shall be subject to review and approval by IDEM, OAM.~~ The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee ~~and, supplemented from time to time by the Permittee,~~ maintained on site, and is comprised of:
- ~~(A1)~~ Reasonable response steps that may be implemented in the event ~~that compliance-related information indicates~~ that a response step is needed pursuant to the requirements of Section D of this permit; and
- ~~(B)~~ ~~A time schedule~~ **an expected timeframe** for taking reasonable response steps including.
- (2) ~~If, a schedule for devising additional~~ **at any time, the Permittee takes reasonable** response steps for situations ~~that may not have been predicted~~ **are not set forth in the Permittee's current Compliance Response Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.**
- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition: **as follows:**
- (1) **Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or**
- (2) **If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.**
- (3) **If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, the IDEM, OAQ shall be promptly notified of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.**
- (4) Failure to take reasonable response steps ~~may~~ **shall** constitute a violation of the permit.

- (c) ~~Upon investigation of a compliance monitoring excursion, the~~ **The Permittee is excused from taking not required to take any** further response steps for any of the following reasons:
- (1) A false reading occurs due to the malfunction of the monitoring equipment. ~~This shall be an excuse from taking further response steps providing that~~ **and** prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied.
 - (3) An automatic measurement was taken when the process was not operating.
 - (4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.
- (d) ~~Records shall be kept of all instances in which the compliance related information was not met and of all response steps~~ **When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section B-Deviations from Permit Requirements and Conditions.**
- (e) **The Permittee shall record all instances when response steps are taken.** In the event of an emergency, the provisions of 326 IAC 2-7-16 **2-8-12** (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.
- (ef) ~~All monitoring~~ **Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as** required in Section D shall be performed ~~at all times when the equipment is operating. If monitoring is required by Section D and the equipment is not operating, then the Permittee may record the fact that the equipment is not operating or perform the required monitoring:~~ **emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.**
- (f) ~~At its discretion, IDEM may excuse the Permittee's failure to perform the monitoring and record keeping as required by Section D, if the Permittee provides adequate justification and documents that such failures do not exceed five percent of the operating time in any quarter. Temporary, unscheduled unavailability of qualified staff shall be considered a valid reason for failure to perform the monitoring or record keeping requirements in Section D.~~
- 16) The following changes have been made to Condition C.19.
- C.19 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]
- (a) The source shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period.

The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance ~~Data Section~~ **Branch**, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.
- (d) Unless otherwise specified in this permit, any quarterly report required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. The report does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) The first report ~~shall~~ covered the period commencing on the date of issuance of ~~this permit~~ **the original FESOP** and ~~ending ended~~ on the last day of the reporting period. **All subsequent R**reporting periods ~~are~~ **shall be** based on calendar years.

- 17) The following change has been made to the certification form.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
CERTIFICATION**

Source Name: Challenge Door of Indiana
Source Address: 200 Gerber Street, Ligonier, Indiana 46767
Mailing Address: P.O. Box 259, Ligonier, Indiana 46767
FESOP No.: F113-10260-00047

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- 9 Annual Compliance Certification Letter
- 9 Test Result (specify) _____
- 9 Report (specify) _____
- 9 Notification (specify) _____
- 9 Affidavit (specify) _____
- 9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

- 18) The Part 70 permit has been revised to reflect the name change of the Office of Air Management (OAM) to the Office of Air Quality (OAQ).

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for a Federally Enforceable Operating Permit (FESOP)

Source Background and Description

Source Name: Challenge Door of Indiana
Source Location: 200 Gerber Street, Ligonier, IN 46767
County: Noble
SIC Code: 3086, 3442
Operation Permit No.: F113-10260-00047
Permit Reviewer: NH/EVP

The Office of Air Management (OAM) has reviewed a FESOP application from Challenge Door of Indiana relating to the operation of an insulated steel door manufacturing facility.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) surface coating emission unit, identified as P001, consisting of the following:
 - (1) One (1) surface coating spray booth, identified as Door Edge Paint Booth, utilizing a HVLP spray application system, coating a maximum of 175 door edges per hour, using dry filters for particulate matter control, and exhausting to one (1) stack, identified as E1;
 - (2) One (1) surface coating touch-up spray booth, identified as Door Touch-up Booth, utilizing an air atomized spray application system, coating a maximum of 175 door edges per hour, using dry filters for particulate matter control, and exhausting to one (1) stack, identified as E2;
- (b) One (1) emission unit, identified as P002, utilizing isopropyl alcohol to hand wipe a maximum of 175 door per hour and exhausting to general ventilation;
- (c) One (1) roll coating emission unit, identified as P003, consisting of the following:
 - (1) Two (2) roll coating operations, identified as Adhesive Roll Coater 1 and Adhesive Roll Coater 2, coating a maximum of 175 metal door skins per hour, and exhausting to two (2) stacks, identified as E3 and E4;
- (d) One (1) core burning emission unit, identified as P004, consisting of the following:
 - (1) Two (2) core burn units, identified as Core Burn Unit 1 and Core Burn Unit 2, for processing a maximum of 438 pounds of polystyrene sheet per hour, and exhausting to two (2) stacks, identified as E5 and E6;

- (e) One (1) woodworking emission unit, identified as P005, utilizing a baghouse, identified as dust collector DC7 for particulate matter control, consisting of the following:
 - (1) One (1) table saw (M1);
 - (2) One (1) Miter saw (M2);
 - (3) One (1) radial arm saw (M3);
 - (4) One (1) rail machine (M4);
 - (5) One (1) radial arm saw (M5);
 - (6) One (1) Lockstile machine (M6);
 - (7) One (1) Hingestile machine (M7);
 - (8) One (1) bandsaw (M8);
 - (9) One (1) tilting table saw (M9);
 - (10) Three (3) drill presses (M10-M12)
 - (11) One (1) planer (M13);
 - (12) One (1) beltsander (M14);
 - (13) One (1) lock block boring machine (M15);
 - (14) One (1) stile and rail machine (M16);
- (f) One (1) expandable polystyrene block molding operation, identified as P006, consisting of the following:
 - (1) One (1) batch polystyrene beads pre-expander system, including one (1) pre-expander machine and six (6) steel pipe frame supported polyester storage bags for aging pre-expander beads, capable of processing 1,200 pounds per hour of polystyrene beads, containing a maximum of 6.7% pentane by weight;
 - (2) One (1) block molding press for molding pre-expanded polystyrene beads to final shapes, utilizing steam to heat the pre-expanded beads;
 - (3) One (1) shaped products drying room;
 - (4) One (1) pentane emissions collection system connected to a 4,000 standard cubic feet per minute (scfm) draft blower; and
 - (5) One (1) thermal oxidizer with heat recovery devices for controlling VOC emissions, equipped with a burner rated at 6.7 million British thermal units per hour, using pentane-laden waste air and natural gas mixture as combustion fuel. This unit is part of the Boiler Oxidation Steam System (BOSS) that produces steam.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour;
- (b) Closed loop heating and cooling systems;
- (c) Noncontact cooling tower systems with either of the following:
 - (a) Forced and induced draft cooling tower system not regulated under a NESHAP;

- (d) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;
- (e) Paved or unpaved roads and parking lots with public access;
- (f) Conveyors as follows:
 - (a) Enclosed systems for conveying plastic raw materials and plastic finished goods;
- (g) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations;
- (h) Other activities or categories not previously identified:
 - (1) Two (2) industrial shop vacuums; Potential PM emissions are estimated at 0.48 lb/hr or 2.1 tons per year;
 - (2) Maintenance/cleaning/repair chemical use (general venting); Maximum potential VOCs for products identified below is 0.14 tons per year. Products: Lucite acrylic lacquer, lacquer thinners and cleaning solvents (maintenance use), butylgrip sealant, X-433 aerosol, strippable wall coating, Mautz industrial enamel, rigid dark thread cutting oil, and WD-40 bulk liquid, etc;
 - (3) Coiled sheet metal cold stamping, punching, bending, and forming operations using non-volatile oil based lubricants; and
 - (4) Polystyrene Scrap Grinding in an enclosed grinder.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) CP 113-5086-00047, issued on July 23, 1996; and
- (b) CP 113-8529-00047, issued on September 29, 1997.

All conditions from previous approvals were incorporated into this FESOP permit except the following:

- (a) CP-113-8529-00047 issued on September 29, 1997.

Condition 11: That pursuant to 326 IAC 8-1-6, a VOC control system consisting of VOC capture devices with a minimum of 80% capturing efficiency and a thermal incinerator with a minimum of 98% destruction efficiency is considered to be the Best Available Control Technology (BACT). VOC emissions will be controlled to less than 249 tons per year, using the capturing devices and thermal oxidizer with the stated minimum efficiencies. Therefore, the requirements of 326 IAC 2-2 (PSD) will also not apply.

Reason not incorporated: The capture efficiency of the system is 53% and the destruction efficiency is 99.6% based on source testing conducted on July 13-14, 1999. In addition, the source is limiting VOC emissions to less than 100 tons per year in order to obtain a Federally Enforceable Operating Permit, thus the PSD limit of 249 tons per year is no longer relevant.

Enforcement Issue

- (a) IDEM is aware that the source is not in compliance with the following emission limitation:
- (1) 326 IAC 8-1-6 (New Facilities, General Reduction Requirements)
Pursuant to 326 IAC 8-1-6, new facilities located anywhere in the state that were constructed on or after January 1, 1980, which have a potential to emit (PTE) VOC at 25 tons or more per year, and which are not otherwise regulated by another provision of Article 8, are subject to the rule requirements.
- (b) IDEM is reviewing this matter and will take appropriate action.

Recommendation

The staff recommends to the Commissioner that the FESOP permit be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An administratively incomplete FESOP permit application for the purposes of this review was received on October 16, 1998. Additional information received on September 8, 2000 and September 14, 2000 makes the FESOP permit application administratively complete.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, pages 1 through 7).

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	30.38
PM-10	30.54
SO ₂	0.02
VOC	151.49
CO	2.47
NO _x	2.93

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

HAP's	Potential To Emit (tons/year)
Glycol Ether	6.42
Toluene	0.26
TOTAL	6.68

- (a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of VOC is equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.
- (b) This source, otherwise required to obtain a Title V permit, has agreed to accept a permit with federally enforceable limits that restrict its PTE to below the Title V emission levels. Therefore, this source will be issued a Federally Enforceable State Operating Permit (FESOP), pursuant to 326 IAC 2-8.
- (c) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 1999 OAM emission data.

Pollutant	Actual Emissions (tons/year)
PM	0.00
PM-10	5.00
SO ₂	0.00
VOC	31.00
CO	1.00
NO _x	1.00
HAP (specify)	not reported

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Federally Enforceable State Operating Permit.

	Limited Potential to Emit (tons/year)							
Process/facility	PM	PM-10	SO ₂	VOC	CO	NO _x	Single HAP	HAPs
Surface Coating (P001, P002 and P003)	0.78	0.78	0.00	20.74	0.00	0.00	6.42	6.68
Core Burning (P004)	13.18	13.18	0.00	0.00	0.00	0.00	0.00	0.00
Woodworking (P005)	1.51	1.51	0.00	0.00	0.00	0.00	0.00	0.00
Expandable Polystyrene Block Molding Operation (P006)*	0.00	0.00	0.00	61.65	0.00	0.00	0.00	0.00
Natural Gas Combustion	0.06	0.22	0.02	0.16	2.47	2.93	0.00	0.00
Total Emissions	15.53	15.69	0.02	82.55	2.47	2.93	6.42	6.68

* Source is taking a material usage limitation of 15,000 pounds of polystyrene beads per day. This limitation along with the existing BOSS is considered to be BACT for this operation.

County Attainment Status

The source is located in Noble County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Noble County has been designated as attainment or unclassifiable for ozone.

Federal Rule Applicability

- (a) The one (1) natural gas fired boiler, is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40c, Subpart Dc), because it has a maximum heat input rate of less than 10 MMBtu/hr..
- (b) The National Emission Standards for Wood Furniture Manufacturing Operations 40 CFR 63, Subpart JJ, does not apply to the surface coating of wood, because this source is not a major source for HAPs.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting), because it will limit annual VOC emissions to less than the one hundred (100) tons per year rule applicability threshold for Noble County.

326 IAC 5-1 (Visible Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1-1 (New Source Toxics Control)

The one (1) surface coating emission unit, identified as P001 and the one (1) roll coating emission unit, identified as P003 are not subject to 326 IAC 2-4.1-1 (New Source Toxic Control) because they were constructed before the applicability date of this rule.

326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)

Pursuant to 326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating), indirect heating units which have 10 MMBtu/hr or less and which began operation after September 1983, shall in no case exceed 0.6 lb/MMBtu heat input.

This limitation is based on the following equation:

$$P_t = 1.09/Q^{0.26}$$

where: P_t = maximum allowable particulate matter (PM) emitted per MMBtu heat input
 Q = total source max. indirect heater input = 6.7 MMBtu/hr

$$P_t = 1.09/6.7^{0.26} = 0.66 \text{ lbs PM/MMBtu}$$

Therefore, the PM emissions from the one (1) boiler (constructed in 1997) rated at 6.7 MMBtu per hour heat input shall be limited to 0.6 pounds per MMBtu heat input.

326 IAC 6-3-2 (Process Operations)

- (a) The particulate matter (PM) from the one (1) surface coating emission unit (P001) shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The dry filters shall be in operation at all times that the one (1) surface coating emission unit (P001) is in operation, in order to comply with this limit.

- (b) The particulate matter (PM) from the woodworking operation (P005) shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

$$E = 4.10 (5268/2000)^{0.67} = 7.85 \text{ lbs PM/hr}$$

Based on the above equation, particulate matter emissions from the woodworking operation shall be limited to 7.85 pounds per hour for a maximum process rate of 5268 pounds per hour.

Compliance calculation:

$$(1.51 \text{ tons PM/yr}) * (\text{yr}/8,760 \text{ hrs}) * (2,000 \text{ lbs/ton}) = 0.35 \text{ lbs PM/hr}$$

Actual lbs PM/hr (0.35) is less than the allowable lbs PM/hr (7.85), therefore the woodworking operation will comply with the requirements of 326 IAC 6-3-2.

The baghouse (DC7) shall be in operation at all times when the woodworking operation is in operation, in order to comply with this limit.

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

The one (1) expandable polystyrene block molding operation, identified as P006, is subject to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), because it has the potential to emit greater than 25 tons/yr of VOC. Pursuant to the rule requirements, the applicant has submitted a Best Available Control Technology (BACT) analysis for the one (1) expandable polystyrene block molding operation.

Challenge Door of Indiana currently uses a boiler oxidation steam system (BOSS) that captures and destroys emissions from the EPS process. At the same time, the boiler provides steam for the EPS expander and block molder. The capture efficiency of this system is 53%, with a destruction efficiency of 99.6% based on source testing conducted July 13-14, 1999. A search of the EPA RACT/BACT/LAER clearinghouse database revealed four facilities that have installed BACT for an EPS process. A BOSS was considered the control option with the highest efficiency. This system, which already exists at the Challenge Door facility, is already considered BACT at two of the four EPS facilities in the EPA clearinghouse database.

However, the enclosures that would be necessary to ensure effective capture of emissions could potentially result in explosion hazards and worker exposure to higher levels of pentane than are currently experienced. Under the current emissions capturing scenario (53%), the BOSS keeps concentrations in the EPS process area below the safety level for both OSHA worker exposure and the lower explosive limit for pentane. By enclosing these areas to gain a higher capture efficiency of fugitive emissions, pentane concentrations in the process areas could rise to levels above safety requirements if there are any failures of the blower systems for the enclosures.

Process	Potential to Emit (tons/year)	Capture Efficiency (%)	Destruction Efficiency (%)	Maximum Polystyrene Beads Process Weight	Controlled Emissions (tons/year)
Previously permitted	250.73	80	98	1200 lbs/hr	54.16
Proposed BACT	130.59	53	99.6	Limited to 15,000 lbs/day (equivalent to 625 lbs/hr)	61.65

Thus, the enclosures are not technically feasible and the existing BOSS along with the material usage limitation will be considered to be BACT.

326 IAC 8-2-9 (Miscellaneous Metal Coating)

Pursuant to CP 113-5086-00047, issued on July 23, 1996, the surface coating of the metal portion of the door is subject to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations). However, all the spray coating operations were constructed before July 1, 1990 except for one (1) roll coating machine. The combined potential VOC emissions for all operations are less than 25 tons per year. The roll coating machine which was constructed after July 1, 1990 has daily potential VOC emissions of less than 15 pounds per day. Pursuant to 326 IAC 8-2-1(a)(2) and (4), the requirements of 326 IAC 8-2-9 do not apply.

326 IAC 8-2-12 (Wood Furniture and Cabinet Coating)

Pursuant to CP 113-5086-00047, issued on July 23, 1996, the surface coating of wood is subject to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating) which mandates that coating materials shall be applied by using one (1) or more of the allowable application methods specified in the rule. The source is not subject to the requirements of 326 IAC 8-2-12 for the same reasons as why the requirements of 326 IAC 8-2-9 do not apply.

Testing Requirements

The source is required to perform stack testing on the core burning unit (P004). Please refer to Appendix A, page 4 for further explanation.

Compliance Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

1. The surface coating emission unit (P001) has applicable compliance monitoring conditions as specified below:
 - (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating spray booth stacks (E1 and E2) while the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
 - (b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit

These monitoring conditions are necessary because the dry filters for the surface coating emission unit (P001) must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-8 (FESOP).

2. The one (1) thermal oxidizer for the one (1) expandable polystyrene block molding operation (P006) has applicable compliance monitoring conditions as specified below:
 - (a) The Permittee shall record the combustion chamber temperature of the one (1) regenerative oxidizer, used in conjunction with the one (1) expandable polystyrene block molding operation (P006), continuously when the one (1) expandable polystyrene block molding operation is in operation when venting to the atmosphere. Unless operated under conditions for which the Preventative Maintenance Plan specifies otherwise, the combustion chamber of the thermal oxidizer, shall be maintained at a minimum temperature of 1,400° F, or a temperature, fan amperage and duct velocity established during the latest stack test, and the minimum air flow rate shall be maintained at 4,000 acfm, or an air flow rate established during the latest stack test. The Preventative Maintenance Plan for this unit shall contain troubleshooting contingency and response steps for when the temperature reading is lower than the above mentioned.

These monitoring conditions are necessary because the thermal oxidizer for the one (1) expandable polystyrene block molding operation must operate properly to ensure compliance with 326 IAC 8-1-6 (New Facilities; General Reduction Requirements) and 326 IAC 2-8 (FESOP).

3. The woodworking operation has applicable compliance monitoring conditions as specified below:
- (a) Daily visible emissions notations of the woodworking operation stack exhaust shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.
 - (b) The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the woodworking process, at least once weekly when the woodworking process is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 0.0 and 2.5 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

These monitoring conditions are necessary because the baghouse for the woodworking operation must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-8 (FESOP).

Conclusion

The operation of this insulated steel door manufacturing facility shall be subject to the conditions of the attached proposed **FESOP No.: F113-10260-00047**.

Uncontrolled Potential Emissions (tons/year)

Total emissions based on rated capacity at 8,760 hours/year.						

Emissions Generating Activity

Total emissions based on rated capacity at 8,760 hours/year, after control.

**Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations**

Company Name: Challenge Door of Indiana
Address City IN Zip: 200 Gerber Street, Ligonier, IN 46767
FESOP: 113-10260
Pit ID: 113-00047
Reviewer: NH/EVP

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
P001																
Touch-up Paint	10.7	52.20%	44.00%	8.2%	56.60%	31.00%	0.00016	175.000	2.02	0.88	0.02	0.58	0.11	0.31	2.83	50%
Edge Paint	10.7	52.20%	44.00%	8.2%	56.60%	31.00%	0.01563	175.000	2.02	0.88	2.40	57.60	10.51	15.32	2.83	75%
P002																
Isopropyl Alcohol	6.55	100.00%	0.00%	100.0%	0.00%	0.00%	0.29924	1.000	6.55	6.55	1.96	47.04	8.58	0.00	ERR	100%
P003																
Part A/Part B Mixed Epoxy	14.25	0.59%	0.50%	0.1%	0.85%	98.98%	0.06560	175.000	0.01	0.01	0.15	3.53	0.64	0.00	0.01	100%
Clean-up Solvent	7.04	100.00%	0.00%	100.0%	0.00%	0.00%	0.00017	175.000	7.04	7.04	0.20	4.91	0.90	0.00	ERR	100%

State Potential Emissions	Add worst case coating to all solvents	4.74	113.66	20.74	15.63
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Controlled Potential Emissions			
Total Controlled Potential Emissions:	Control Efficiency %		Controlled PM tons/yr
	PM		
	95.00%		0.78

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

Appendix A: Emission Calculations**HAP Emission Calculations**

Company Name: Challenge Door of Indiana
Address City IN Zip: 200 Gerber Street, Ligonier, IN 46767
FESOP#: 113-10260
Pit ID: 113-00047
Permit Reviewer: NH/EVP

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Toluene	Weight % Glycol Ethers	Toluene Emissions (ton/yr)	Glycol Ethers Emissions (ton/yr)
P001							
Touch-up Paint	10.7	0.000158	175.00	0.00%	1.00%	0.00	0.01
Edge Paint	10.7	0.015630	175.00	0.00%	5.00%	0.00	6.41
P003							
Clean-up Solvent	7.04	0.000166	175.00	29.00%	0.00%	0.26	0.00

Total State Potential Emissions

0.26**6.42****METHODOLOGY**

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
VOC Emissions
From Core Burning

Company Name: Challenge Door of Indiana
Address City IN Zip: 200 Gerber Street, Ligonier, IN 46767
FESOP: 113-10260
Pit ID: 113-00047
Reviewer: NH/EVP

Potential PM/PM10 Emissions from the Core Burning Operation (P004)

PM/PM10 emissions (tons/yr)	=	12 grams/door /	453.6 grams/lb	175 door/hr x	65.00% embossed x	8760 hrs/yr /	2000 lbs/ton
	=	13.18 tons/yr					

Note:
Emisison factor of 12 grams/door was provided by the applicant.
the beads.

Therefore, stack testing is being required for this unit to determine the type and amount of pollutants being emitted by this unit.

Appendix A: Emissions Calculations
Process Particulate Emissions from Woodworking Operation

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Company Name: Challenge Door of Indiana
Address City IN Zip: 200 Gerber Street, Ligonier, IN 46767
FESOP: 113-10260
Pit ID: 113-00047
Reviewer: NH/EVP

Woodworking Operation (P005)

PM/PM10: 0.0023 gr/acf outlet x 17500 acf/min x 60 min/hr / 7000 gr/lb x 4.38 ton/yr / lb/hr = **1.51 tons/yr (controlled)**
where the baghouse control efficiency is listed at 100.00%

Allowable PM emissions

4.1 x (5268 lbs/hr / 2000 lbs/ton) ^ 0.67
= **7.85 lbs PM/hr**
= **34.36 tons PM/hr**

Potential emissions are less than the allowable emissions, thus the source will comply with 326 IAC 6-3-2

Appendix A: Emissions Calculations
VOC emissions
From Expandable Polystyrene Block Molding Operation

Company Name: Challenge Door of Indiana
Address City IN Zip: 200 Gerber Street, Ligonier, IN 46767
FESOP: 113-10260
Pit ID: 113-00047
Reviewer: NH/EVP

Potential VOC Emissions from the Expandable Polystyrene Block Molding Operation (P006)

Expandable Polystyrene (EPS) Beads contain 6.7% by weight pentane gas.
 The facility has a maximum process weight rate of 1200 pounds of EPS per hour.
 71.2% of pentane will be emitted in processing the EPS.
 53% of pentane emissions will be captured.
 The thermal oxidizer has a destruction efficiency of no less than 99.6%.
 Pentane is the only VOC emitted.

Uses a boiler oxidation steam system (BOSS) and a material usage limitation of 15,000 lbs of polystyrene beads per day (equivalent to 625 lbs of polystyrene beads per hour)

Uncontrolled VOC Emissions	=	625 lbs/hr x	6.70%	x	71.20%	x	8760 hr/yr /	2000 lbs/ton
	=	130.59 tons/yr						
Controlled VOC Emissions	=	130.59 tons/yr x ((1	-	53.00%) +	53.00%	* (
	=	61.65 tons/yr						1 - 99.60%))

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Page 7 of 7 TSD App A

Company Name: Challenge Door of Indiana
Address City IN Zip: 200 Gerber Street, Ligonier, IN 46767
FESOP: 113-10260
Plt ID: 113-00047
Reviewer: NH/EVP

Btu content of air containing captured pentane can be calculated as follows:

Btu content = 1200 lb/hr * 6.7% * 71.2% * 53% captured * 19,500 Btu/lb / (4,000 scfm * 60 min/hr) = 2.47 Btu/cu ft

Since the Btu content is much lower than that of natural gas (1000 Btu/cu ft), burning natural gas will have higher emissions for all pollutants and emission factors for natural gas are used in the calculations.

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

6.7

58.7

Heat Input Capacity includes:

One (1) waste heat boiler rated at 6.7 MMBtu/hr

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.06	0.22	0.02	2.93	0.16	2.47

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).